The Builder.

VOL. LXXXI.—No 3671. DECEMBER 14, 1901.

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Students' Designs at the Royal Academy.

THE annual exhibition of the designs made in competition for the prizes offered by the Royal Academy is an event of considerable interest, for it is from this exhibition mainly that we can learn what is the tendency of Academical teaching in art, and what prospect there is of the arising of any new men of genius to fill ultimately the place of those who are gone.

Something depends, in such a competition, on the choice of subjects made by the Academy for their students to work on. Subjects for treatment in sculpture and painting are in one sense innumerable, but it is not so easy to select a number which will offer a stimulating interest to the student; a difficulty obviously felt at the Ecole des Beaux-Arts as well as at the Academy. "France Giving Algeria Artesian Wells," which the French students had to work on one year, for instance, was hardly a subject calculated to evolve an interesting picture; and the Royal Academy has not always been more happy. This year however, the Council, or whoever selects the subjects, may be congratulated on having been more successful than usual. In architecture, "A Town Hall for One of the New London Borough Councils" is not only an excellent subject in itself, but one which is calculated to interest the students in an actual architectural requirement of the moment. "Boadicea Exhorting her Troops," and "The Expulsion of Adam and Eve from Paradise," are subjects well worn in painting, but not often treated in sculpture. "Saul and the Witch of Endor" offers considerable opportunities for expression and effect to the painter, and "One of the Bridges over the Thames in London" we should have thought an ideal subject for the Turner gold medal, though we must admit that it does not seem to have inspired the competitors very much. For the Creswick prize it is always difficult to define a subject; what is wanted is simply a good landscape, and that is a vague want difficult to define. "Cumulus Clouds over a Fen Country" serves, however, to indicate the main character of a landscape, so as to keep the competitors in a certain path and render comparison easier. But the best stroke in the way of selection of subjects is that for the decorative painting for a public building—"The Maske of Cupid" from the "Faërie Queene" (Book III., canto 12), the wondrous procession which Britomart sees file through the hall, the personifications of vices and passions, and Cupid riding on a lion among them; a subject certainly to stimulate the imagination, and giving every opportunity too for fine and effective colouring. It is not surprising that so suggestive a subject should have brought out a larger and better competition than usual.

In these pages we must take the architecture first, though architecture has never been the most flourishing of the arts at the Academy, partly because a good deal of the best youthful talent goes to compete for the Institute of Architects' prizes. We have some doubt whether the gold medal for architectural design has been rightly awarded. Mr. Hugh Webb's perspective view is probably mainly what has gained him the medal; it is a sensible and well-balanced Renaissance design of thoroughly municipal character; there is some originality in the treatment of the cupola, and the sculpture figures are well put in. The sectional design of the large hall is not very interesting, and the plan is faulty in principle as well as in some of its details. A principal entrance and vestibule should never lead up to the *side* of the principal apartment; there is an anticlimax in such an arrangement; and the cloakrooms are absurd—two small square rooms facing each other, quite inadequate in size and with no lavatories attached. No hall for public gatherings could be satisfactory, or workable at all, with no better provision for the convenience of the audience than this; planning of this kind is merely evading an important practical point. On the other hand, the corridors are well lighted, and the official lavatories well isolated; but we cannot call this a plan to give a medal to, and we fear plan is not considered at the Academy as much as it ought to be on these occasions.

The two next best designs also make the entrance to the large hall at the side, but No. 197 is a fine plan on the ground floor, and the hall and staircase dignified, but all the entering audience are led to one door only, for the door at the end would be practically only an exit. The design is somewhat too busy and pretentious, but it is effective; the treatment of the end cupolas shows French influence. No. 199 is a very clever and original design, and we are almost disposed to think that it merited the medal. In the exterior there is a fine and effective contrast of masses of masonry with sculptural decoration; the low block in front in the centre is perhaps a little too plain and unadorned, but the whole is original; the large hall is effectively designed, and the cloakrooms are far better planned than in the medal design. The other designs are crude attempts which need not occupy us.

The 25*l.* Upper School prize for "A Set of Architectural Designs" (not quite an accurate description, for here, as in other cases, there is only one design shown by several drawings) has been won by Mr. F. Winton Newman with a design for a pulpit to be executed in marble. This is in a style of detail of the latest fashion, somewhat too thin and rigid in line and proportion, but it has the merit of being exceedingly well suited for marble, and the decorative details are well sketched in. No. 209, a design for the same object, has also merit, and No. 208, a design for a riverside warehouse, is good, though perhaps a little weak in character for a warehouse. How are the subjects for this prize chosen? Two competitors have, as we noticed, sent in designs for the same object, the others for objects widely different. It would seem better to have a selected subject; it is difficult to compare things so diverse as a cathedral pulpit and a riverside warehouse; they have no common denominator, so to speak.

The 10*l.* prize in the Lower School has been well merited by Mr. T. G. Davidson for a "Design for a Country House" with a

very clever and unusual plan, consisting of a centre block chiefly occupied by entrance hall and dining-room, with wings projecting forward on each side in a kind of horn shape, enclosing the forecourt between them. It would perhaps not altogether do to have one of the drawing-room windows looking across the court at the kitchen offices; but nevertheless the plan is a very clever one; the small side windows opening immediately on the kitchen range are a good feature (kitchen ranges are often deficient in lighting), and the planning of the dining-room, with its two doors and its semicircular bays at the opposite ends, is very effective. The treatment of the exterior is quiet and rather deficient in character as compared with the plan.

Although as we think, plan is not generally sufficiently considered in the architectural awards, the Royal Academy has during the last few years recognised the importance of plan in another way, by offering a 10*l.* prize for a plan of a building. There is only one competitor this year (the subject is evidently not an attractive one), Mr. L. U. Grace, who has made a plan of a Casino and Grounds—*i.e.*, a building with dining rooms and a theatre, with a large formal garden laid out around it. The plan would be a very effective one; the entrance especially is finely conceived; but to have the entrance facing north and both the dining-rooms facing full south is a fatal error, notwithstanding the verandah or colonnade in front of the windows. Aspect is an important point in planning, and those dining-rooms would be very hot in summer. Something larger in the way of a drawing-room seems to be required than the small salon opening out of the end of one of the dining-rooms. Though a fine plan in the effective sense, it is not a very practical one, and the question of aspect seems to have been overlooked, as it often is by the Academy architectural students, though we are assured that it is duly brought before them by their instructors.

The silver medal for architectural drawing has been awarded to Mr. Palmer for a very good set of measured drawings of the Trinity House, and the silver medal for perspective drawing (for architects only) to Mr. A. C. Bossom for a drawing of Lord Burlington's villa at Chiswick. He has also submitted a tinted perspective drawing of the front and central vista of the Temple of Theseus, as a study in sciography. The very useful medal for perspective drawing in outline open to painters and sculptors only has this year, we are glad to see, attracted three competitors; it would have been well if there had been more, for that many painters have never properly learned to handle a building in perspective is a point of which one has evidence in almost every picture exhibition. The prize is in this case taken by a lady, Miss Ada Fuller, who we have no doubt will find the knowledge gained in this competition useful to her in future.

There can be no question that the prize work in sculpture composition—the Boadicea subject before referred to—is far away the best of those sent in; it is by Mr. S. N. Babb, who has treated the subject with great dramatic vigour and at the same time entirely with the proper limits of bas-relief sculpture. The relief is in a rather flat monumental manner, perhaps a little influenced by Donatello, though not so obviously so as in the case of No. 176; who, however, has captured nothing of Donatello but his habit of undercutting low relief figures. No. 177 shows sculpturesque feeling, but is hardly sufficiently worked out. In the competition for a sculpture design (or rather sketch) in the round, "The Expulsion of Adam and Eve," it is noticeable that the first and second prizes have gone to almost the only two competitors who have contented themselves with the human element and omitted the expelling angel. That angel has evidently been a great temptation to most of the competitors, and has led them into sensationalism. The author of the first prize group, Mr. Chrisfield, has shown the two figures walking side by side, their heads bowed, with a consentaneous movement which seems to combine the two into one design with a common *motif;* nothing could be simpler, but its simplicity is its success; it is an admirable design, and we should like to see it worked out life size.

The prize for the cartoon of a draped figure has been taken by a lady student, Miss Gregory, whose figure, in a long black cloak the folds of which are carefully studied, seems to fulfil best the title of the subject—"A Mourner;" but there is a great deal of merit also in the classically draped figure by No. 89; the competition as a whole is a good one. Coming now to the highly interesting mural picture competition, there can be no doubt that the best painting is that by Mr. Eastman to which the prize has been awarded; the colour scheme is fine as a whole, and every figure has been carefully studied. Yet we are not sure whether the second prize design, by Mr. W. E. G. Solomon, does not come nearer to the right way of treating the subject, in the very fact that the figures are less highly-finished, less realistic, more abstract. Spenser, it is true, describes his figures very fully; but after all, they are allegorical personages, and in allegory a degree of detail which can be expressed in words without destroying the poetic element is apt to become too realistic when expressed in painting. One or two of the competitors have fallen into this snare completely, and their pictures only suggest a drawing-room masquerade; there is no glamour about them; and Mr. Eastman's design is just on the verge of the same defect. It merits the prize for its fine and conscientious execution, but we do not know whether Mr. Solomon's is not the more poetic type of treatment, and there is a fine tumult of colour in it too. Mr. Eastman has made a good point in composition by representing his Cupid not riding astride of the lion, as the others have done (and we may add, as Spenser obviously intended), but reclined along the animal's back, and with one of his wings forming a sweeping line above the group; this is a fine element of design, and adds very much to the effect and movement of the whole composition. Among the best of the other designs are those numbered 96 and 99.

The competitors for the "Design in Monochrome for a Figure Picture" (subject, "The Sacrifice of Manoah") are as usual very numerous, and the greater number of them pretty equal in merit and not very remarkable in conception. The one to which the prize has been awarded was not one of the most striking at first sight, but it is certainly the best composed in the relations of the angel and the two other figures; and composition is the main object of this competition. The Historical Painting competition seems (as usual) to support the view that painting of this class is the most difficult of all the arts; it is rarely that, in the students' competition in this class of work, we come upon any work which can be regarded as a satisfactory picture in itself; it is only the best out of so many attempts. Mr. Murray's picture is exceedingly stagey and melodramatic in colour and treatment, but his witch is good; Mr. Appleyard gets a *proxime accessit* for a painting in which he has represented the witch under the exceedingly improbable semblance of a young and nearly nude woman, whose figure shows good treatment, but the picture as a conception of the scene in the Old Testament is absurd. Mr. Osmond Pittman may be congratulated on having obtained both the landscape prizes, the Turner and the Creswick, and both we think deservedly—certainly at all events as regards the Turner medal. He has selected Putney Bridge as his subject, choosing low water for the sake of the shore and the craft lying on it; as a whole it is a very good landscape, though the bridge is sadly maltreated; of course in a landscape one does not expect a bridge to be architecturally made out, but something more of its real character might be given than Mr. Pittman has given, and of its real colour too, for it is a bridge which, on every occasion that we have seen, always looks *white* in the scene, not the colour it is shown here. In the Creswick competition Mr. Pittman's is unquestionably the most finished work, but it does not exactly meet the terms of the subject, "Cumulus Clouds over a Fen Country"; it is not a fen country. The picture numbered 25 has more power of pictorial effect and is more in keeping with the terms of the competition, but it must be admitted that it is somewhat crude in execution. In neither the Turner nor the Creswick competition was the general average of work good; and it seldom is.

The address which was delivered by the President at the distribution of the prizes was full of wise and thoughttul criticism, especially directed against the present craze for originality (or what is thought to be such) at all costs. Sir E. Poynter specially warned the students against the idea that originality could be produced by throwing aside all the best traditions of art. To adopt the pattern of design or colour or the startling methods of execution of some eccentric painter in vogue, showed no whit more originality than to follow in the steps of the great men of the past. "Such aping of eccentricity might be good for the comic journals, but for serious art never. . . . . Let them get at the heart of their theme, and they would find that they had been original without knowing it:" a sentence which we are glad to see was received with much applause. We earnestly hope the art-students of the Royal Academy will act upon this teaching.

NOTES.

Contracts with the Government.

THE case of the Attorney-General *v.* Steward & Co., which reached the last stage of litigation in the House of Lords last week, makes one despair of business men, for on the one side was the Admiralty, on the other a limited company, the owners of the Portland quarries, two contracting

parties who, one would have supposed, would have been able to make arrangements in plain language. The Admiralty sent out tenders for stone in such quantities and at such times as may be required by the Admiralty. The company tendered to supply the stone—approximate amount "about two million tons"—and the Admiralty accepted the tender for the supply "of about two million tons or such quantity as may be required." Before the two million tons was taken the Admiralty gave notice that they needed no more, having given up the work to a contractor. The Court below the House of Lords gave judgment for Steward & Co.; the latter tribunal have reversed these findings, and have held that the contract was not for a specific quantity. The truth is that no two men will construe loose language of the kind alike; each will look at it differently. But the whole of this expensive litigation would have been avoided had the contracting parties said in clear terms what the contract was. No doubt the Admiralty officials merely meant that two millions was the limit required, not necessarily the amount to be taken. Steward & Co. equally genuinely imagined that they had made a contract to supply a definite amount of material. To the ordinary mind it must be confessed the contractors' view seems the most reasonable, but the moral of the affair is that parties to such a contract as this ought to have made their meaning clear in the first instance, and it says little for the business capacity either of the Admiralty or the contractors that they did not put the terms of the contract into less ambiguous language.

Electrical Traction, Underground Railway.

THE arbitrator's award in the dispute between the Metropolitan and the Metropolitan District railway companies, in regard to the system to be employed for electrical traction, has been given in favour of the "continuous" or "direct" current system advocated by the Metropolitan District Company. We regret the decision, as it will probably delay the application of electrical power to working long-distance railways. As Professor Ewing pointed out, the cost of the copper required by the direct-current system to work a long-distance railway would be absolutely prohibitive. The Ganz scheme for working the Underground Railway was a most attractive one. Circle trains, composed of six cars, the first and last of which were motor-cars, were to give a two and a half minutes' service on the circle, and other trains were to change steam for electric motor-cars outside the circle. The primary motors were to take current at 3,000 volts from two overhead trolley wires on the three-phase system, the rails forming the third conductor. The safety devices that were described by the able engineers of the Ganz Company were excellently designed, and so far as safety from shock is concerned, the advantage, in our opinion, lay with the polyphase system. The motors were to be used as brakes, as they are in the Valtellina line in Italy, where 30 per cent. of the energy expended in braking is recovered, as the motors act as dynamos during the process. By the ingenious method of working the polyphase motors "in cascade" various speeds could be obtained without the use of the complicated "series-parallel" controller which is necessary with direct currents. The speed at which the trains would run would enable them to get round the circle in fifty minutes, the maximum speed being twenty-five miles an hour. The weak point in the direct-current system is the necessity of using polyphase currents at the start, and then transforming down by means of rotary converters, introducing an immediate loss of 8 per cent. of the power generated. No one questions that the Underground Railway can be worked by direct currents, but if this system is adopted we shall be surprised if the question of the electrolytic corrosion of gas and water pipes does not demand attention in the immediate future.

The New York Subway.

COMMENDABLE progress continues to be made towards the completion of the New York Rapid-Transit Subway. This important and difficult work was commenced about February, 1900, and the contract stipulates that it must be finished in August, 1904. Amongst the incidental difficulties of construction there are some of particularly troublesome character. Starting at the busiest centre of traffic in the city, the subway runs for no inconsiderable part of its twenty-mile course beneath many important thoroughfares, in close proximity to the surface. As an essential feature is that street traffic may not be interrupted, it was necessary, before starting the work of actual excavation, to construct a complex system of falsework for supporting the roadways and electric tram-lines, as well as to provide suitably for the network of gas, water, electric, and other conduits. Bearing these things in mind, it would be by no means surprising if the present state of work were to foreshadow a deferred date for completion. To find, on the contrary, that the contractors are several months ahead of their time is as satisfactory as it is unusual. The quantity of earth excavated amounts to 800,000 cubic yards out of the estimated total of 1,700,000 cubic yards; 366,000 cubic yards of rock have been removed out of the total of 1,300,000 cubic yards; and 9,700,000 dols. out of 35,000,000 dols. total had been expended up to November 1 of this year. A site for the power house has already been selected of sufficient area to provide, not only for the extensive plant at present ordered, but for considerable additions that may be required for future development of the subway system. Even at the start the power station will be larger than the 70,000 h.p. plant of the Metropolitan Street Railway, and even larger than the 100,000 h.p. power station of the Manhattan Elevated Railway. Contracts have recently been settled for the boilers, engines, and electric generators, and it is anticipated that the whole undertaking will be in operation in the early months of the year 1904.

Bridge Painting.

VISITORS to Scotland frequently notice the difference of tint between one part and another of the Forth Bridge, but only those who take the trouble to inquire into the matter know the exact cause of the phenomenon. The fact is that since its completion the bridge has been continually in the hands of the painters, who commenced work at the southern end, and on finally reaching the northern extremity, at the expiration of about three years, once more resumed operations at the original starting point with the same goal in view. Three such laborious and snail-like journeys have been performed, and the fourth is at present in progress. The Resident Engineer has instituted a complete system of ladders, cradles, and platforms for the painters to work from, motive power being provided by a number of steam hoists and winches. Ladders are attached to the larger struts and ties, and permanent elevators are installed for furnishing access to the loftier parts of the structure. The under side of the roadway is reached from platforms suspended on wire cables stretched at each side of the bridge, and the platforms are drawn along the wires from point to point. Paint is mixed in houses built near the elevators, so that it may be distributed conveniently for use. The satisfactory manner in which the work has been performed is evidenced by the fact that not the slightest sign of deterioration has yet been discovered. Under the present system every detail of the structure is bound to be painted, whether it appears to want it or not. Thus, there is no risk that any out-of-the-way parts can be forgotten, as would certainly be the case if a piecemeal system of work were adopted. There is a weird contrast between modern and ancient bridges. The most magnificent of modern steel structures, the Forth Bridge can only endure by the aid of paint. Stone bridges last for ages without such adventitious aids, as, for example, the bridge built by Trajan at Alcantara, 650 ft. long and 140 ft. above the river, which still survives after braving the elements for 1,800 years.

The New Delaware Breakwater.

A GREAT engineering achievement is the new breakwater in Delaware Bay, now on the point of completion. This important undertaking affords material for a most striking comparison between old and new methods of construction. The old breakwater, about one mile in length, occupied seventy years in building, and contains about 1,231,587 tons of stone, of which the greatest quantity deposited in any one year was 32,000 tons. Its total cost was 2,807,000 dols., and the accommodation was limited to a comparatively small and shallow harbour, now used by nothing larger than coasting and fishing vessels. The new breakwater, one mile and a half long, was designed in 1892, and has already been practically finished. It contains 1,464,410 tons of stone, laid at the average rate of 32,000 tons per month, the maximum monthly rate being 62,719 tons, and the maximum yearly rate 450,000 tons. Its total cost will not exceed about 2,239,334 dols., and the area of the harbour is 789 acres, of which 552 acres have a minimum low-water depth of 30 ft., and 237 acres a similar depth of 24 ft. In point of time the saving has been very remarkable, especially if we assume that methods of work on the older structure were periodically improved: in material the saving has been nearly 400,000 tons at the original rate per mile, and much more if we take into account the greater depth of the new structure; whilst from a financial point of view the saving is no less than 1,971,166 dols. The reduction of time and cost is due to the employment of powerful machinery both at the quarries and the breakwater, and also to the improved method of construction which has so largely reduced the amount of stone

required. The method in question consists in adopting for the submerged portion of the breakwater a cross-section determined by the action of the sea itself, instead of a much flatter slope, such as was previously believed to be essential. Whilst giving every credit to the engineer responsible for using this form of design, we do not quite concur with the American Press as to its novelty, for the principle is well known to our own marine engineers, who have for many years recognised the desirability of designing their structures in harmony with the working of waves and tides.

The Profitable Sale of Electricity.

WE hope that the lengthy paper read on Thursday by Mr. Arthur Wright (the Electrical Engineer to the Brighton Corporation) to the Institution of Electrical Engineers will enable electricians to fix upon some standard system of charging consumers for electric light. The prevalence of hazy ideas on the subject is shown by the great diversity of systems in use. Some companies begin by having as many as seven or eight bases for making out their consumers' accounts, which entails great clerical labour, and soon leads to general dissatisfaction. Others, as Mr. Wright says, discourage the use of lamps, and thereby the employment of their own capital, during the time most people require light, by quoting a high evening rate and a low day rate. The cost of supplying electrical energy divides itself into two classes—the cost of getting ready to supply energy, and the cost of continuing to supply energy. Methods of separating the two costs were given, and stress was laid on the importance of only considering the annual costs. In Mr. Wright's opinion, the reason why the present electricity consumers are not so profitable in proportion as ordinary gas consumers is due to the imperfect systems of tariff in vogue, to the practice of only running distributing mains in wealthy neighbourhoods, and to the great initial cost of wiring. He points out that supplying the middle-class districts is the most profitable, as the number of users is so much greater per square mile. The tariff he favours is the maximum demand system in use at Brighton, and it certainly seems to us to be the most equitable one. The opposition to a high initial rate only comes from the unprofitable consumer.

Baker-street Station.

THE Metropolitan Railway are taking in hand the enlargement of Baker-street Station none too soon. For it is intended to apply to Parliament in the approaching Session for powers by Bill to take the necessary property. It has long been little short of a scandal that a terminal station should have no vehicular outlet but the open street, and that passers-by and passing traffic should be inconvenienced by the railway traffic. The enlargement of the terminal station will, it is to be hoped, improve the circle station, which is altogether too small for its traffic. We are glad to note a considerable improvement in the lighting of some of the stations on the District line, and we are confident that lighter stations would attract traffic, for no one, if he can possibly avoid it, will descend into dark and positively dangerous underground stations.

The Church of St. Bartholomew, Little Moorfields.

THE Ecclesiastical Commissioners announce that the freehold site and the fabric of the church will shortly be offered for sale at the Auction Mart. The site has frontages to Tenter-street, Moor-lane, and New Union-street, and extends over an area of about 6,300 superficial feet. The benefice is now united with that of St. Giles, Cripplegate Without, and a new church to be dedicated to St. Bartholomew will be erected with the proceeds of the sale. On October 5 last we gave an account of the reinstatement in St. Giles's Church of some of the interior fittings at St. Bartholomew's, which was built by Professor Cockerell, who used much of the materials—comprising the tower, with its singular top-stage—and fittings of Wren's church of St. Bartholomew-by-the-Exchange, pulled down in 1840 for a widening of Threadneedle-street at the building of Tite's Royal Exchange.

Mr. Weedon's Landscapes.

THE Fine Art Society has on view a collection of water-colour drawings by Mr. A. W. Weedon, of more than average excellence. Mr. Weedon is one of the water-colour artists of the old broad school of handling, and in his best work there is much affinity between his style and that of the late Mr. Wimperis; see "Waste Ground near Lymington" (16), for instance, with its grand clouds floating over a barren moor. Among others of the same type of excellence are "Fittleworth Common" (9), an exceptionally fine little landscape both in composition and in the treatment of the sky; "On the Dunes, Holland" (3); "Coast Road, Bosham Creek" (13); "Peat-bog, Poolewe" (50); and "The Borders of the New Forest" (62). The largest work, which fills the centre space at the end of the room, is "Launching the Boat" (35)—an expanse of flat shore and a great space of windy sky; the boat and figures surrounding it form an incident concentrated at one point in the scene, so as to produce what may be called a strong accent in a scene where all else is sky and shore, in a very fine and effective manner. Other types of subject are well treated; "Richmond Park" (34) is a fine tree picture; there is a fine view of Salisbury (48) from the same point as Turner's "Liber Studiorum" sketch, with the same long low hill in the background; and "Martello Towers near Eastbourne" (55), a work unlike the others, is a beautiful bit of bright sunshine effect. The whole collection is the work of a conscientious and genuine water-colour artist.

Decorative Paintings for a Church.

THE pictures of Mr. Frederick Shields, now on view at Messrs. Dowdeswell's gallery, painted for the chapel of the Ascension in Hyde Park-place, can only be strictly called decorative in regard to the four single figures of Faith, Hope, Love, and Patience; the larger subjects, in regard to style, are easel pictures, though intended no doubt, in a sense, to constitute church decoration. We cannot say that they are very striking either in conception or colour (so far as the latter quality can be judged of in the artificial light under which they are exhibited); that representing "The Cleansing of the Temple" is very weak, the figure of Christ being totally without energy of expression or action. In "The Lesson of Forgiveness" there are higher qualities of expression. The four single figures are treated symbolically, and combined with symbolical attributes; these require a certain degree of explanation in the catalogue, which is a weakness in a work of art; the only symbolism fit for painting is that of which the meaning is obvious without literary explanation. The finest and most effective of these figures is "Faith"; but the whole give rather the impression of being painted for their moral significance than for artistic impressiveness. It may be argued that this is the right aim for church paintings, and we do not say that it is not so; only works painted in this spirit must be estimated from the religious and not from the artistic point of view.

The Date of Stonehenge.

MR. F. C. PENROSE and Sir J. Norman Lockyer have been engaged during the past summer in taking observations at Stonehenge, more particularly with the object of ascertaining the date of the erection of the stones, and of investigating the actual or supposed orientation of the remains. We gather that in the result they are inclined to consider that the stones were set up about seventeen hundred years before the Christian era, upon the prior assumption that the structure constituted a solar temple.

MAGAZINES AND REVIEWS.

THE *Architectural Record* contains a very interesting and significant article by Mr. Montgomery Schuyler on "Monumental Engineering." The article is partly suggested by the results of a recent competition for a bridge across the Potomac from Washington to Arlington. It constitutes an exceedingly thoughtful criticism on the æsthetic treatment of bridges. The "accepted design," by Mr. Burr (engineer) and Mr. Casey (architect), is somewhat like the Vauxhall Bridge, in so far as the actual construction is a steel-braced one, and the facing a masonry arch with rusticated voussoirs—of better proportions, however, than the Vauxhall design. The competition, says the writer of the article, should have value in bringing about an increasing attention to the appearance of bridges, and in forcing engineers to consider the artistic element in design. "This competition shows us that eminent engineers may be entirely helpless when the element of design is introduced. It is not beyond hope that the looks of municipal bridges may come to be regarded as of as much importance as the looks of other municipal erections, and even that railways will come to consider the appearance of their bridges as well as of their stations. For these works the engineers cannot resort to the architects, but must rely on themselves. When this happy state of things comes about, the question of the artistic training of engineers will settle itself by resolving itself into a question of supply and demand. And then it will be no longer possible for a professed vandal to remain an eminent engineer." It is gratifying thus to find that the movement which is taking place in England in favour of the artistic designing of bridges has its counterpart on the other side of the Atlantic.

The *Berliner Architekturwelt* contains an article on "The Berlin High-level Bridge from an artistic point of view" ("als Kunstwerk"), but the illustrations given show more of eccentricity than art. The new building for the Berlin Handselgesellschaft, by Herr Alfred Messel, is a fine and dignified piece of architecture of the Classic school, with some touches of originality.

In the *Art Journal* Mr. Claude Phillips continues his critical essay on the contents of the Wallace collection, dealing in this number chiefly with the works of Fragonard and Greuze. A short article on the Castle of Neuschwanstein, by Mrs. James Douglas, with illustrations by her husband, introduces us to

a Bavarian castle of singularly romantic beauty of design and position. Under the title "An Artist in Floral Design," Mr. Lewis F. Day introduces us to the work of Mr. Lindsay P. Butterfield, whose designs for tapestry and cretonne, illustrated here, are excellent examples of the application of foliage forms to conventional design.

The *Magazine of Art* contains an article on the later work and studies of Adolf von Menzel, who appears to have taken largely to pencil work in his latter days. Miss Helen Zimmern contributes a short article on the "Trend of Modern Italian Art," which, from her account, appears to be rather largely influenced by northern art, not excepting what is called the "Glasgow School"—not, apparently, with very happy results. An imaginary conversation on "Impressionism: Con. and Pro," is worth reading; and there is an article on the work of "A German Artist in Metal," Herr Albert Reimann, the illustrations of whose work show a great deal of piquant fancy and invention.

The *Artist* includes an article on "The Influence of the Pre-Raphaelites in France"—an influence which we should imagine to be purely imaginary; one on "Auguste Rodin," in the usual spirit of adulation which is fashionable at present; and one on "Two Bohemian Painters," F. Jennewein and E. Holarek. These painters, judging by the illustrations of their works that are given, are possessed of no little power, though they illustrate the present-day tendency to the worship of ugliness and morbidity in art. What is the meaning or charm of the two ridiculous little chromo-lithographs of houses at Samer (near Boulogne) we fail to comprehend.

Under "The Field of Art" Mr. Russell Sturgis contributes to *Scribner* an article on "Art Societies and Societies of Artists," and the special good they may do or should aim at doing. An article on American portraiture of children, by Mr. Harrison S. Morris, shows in its illustrations some very charming examples of the treatment of children in art. "A Miniature," by Margaret Kendall, showing a little child in his shirt wading in a stream, with a hedge as a background, is something quite original, and there are other very good examples among the illustrations.

The *Century* has an article by Mr. C. Dexter Allen on "The Appeal of the Book-Plate, Antiquarian and Artistic." The illustrations are of course all from American book-plates, of which the best are two by Mr. E. D. French, who appears to be considered the leading American designer in this class of work. That of the New York Yacht Club Library shows a decorative treatment of the stern of a seventeenth-century ship, with decorative water and the name of the club on a panel; the mistake of the design is that you see an anchor and a distant view of the sea through the centre stern window, so that the ship is reduced to a skeleton frame, though a mast and sail are seen above this vacuum. A certain probability should pervade even conventional decorative design. The other we refer to is that of the Grollier Club. In the same artist's design for the Union League Club the decorative detail is admirable, but the perspective view of the interior of the club in the centre of the plate seems out of place. A book-plate should be symbolical, not realistic. The author of the article notes that originally all book-plates were heraldic, and that "the question of the use of the family coat of arms vexes the American very seriously;" not however, as we should have expected, because Republican America despises such vanities (at least it is not so stated), but because of the difficulty of acquiring certainty about the "right to arms," or of getting the "coat" well drawn when this initial difficulty has been got over. "Heraldry is too exact a science to admit of liberties, and it is no small achievement to draw the coat of arms with absolute correctness, and yet with artistic feeling." This is quite true, but one is surprised to read the sentence in an American magazine. The same issue contains some rather striking and effective chromo-lithograph illustrations to Milton's "L'Allegro," by Mr. Maxfield Parrish.

Harper contains an important article by Dr. Waldstein, "New Light on the Parthenon Sculptures." This seems to be substantially the paper which he read before the Hellenic Society last year, in which he drew attention to the photographs of two statues purchased almost accidentally in Rome in 1892 (they are said to have been merely "thrown in" along with other articles supposed to be more important), and now in the Dresden Sculpture Museum, one of which is so like the general attitude of the Parthenon Kephissos figure, as as to leave no doubt of its having been a copy of it. The other is a complete half-draped female figure, which corresponds in many of its lines with draped female figures at the Parthenon of which only portions remain, and which Dr. Waldstein therefore takes, with great probability, as being a copy of a figure by Phidias of which we have lost the complete original. The same number contains a most interesting article on Rosa Bonheur, by M. Jules Claretie, and one on Snow Crystals, by Mr. Wilson Bentley, accompanied by illustrations of forms of the most beautiful and elaborate symmetry from actual snow crystals, suggesting a new field for the student of decoration.

The *Pall Mall Magazine* contains an article on "London Bridge" as it is and as it will be, by Mr. Hugh B. Philpott, with illustrations by Mr. Hedley Fitton. The author has the sense to perceive that we may be paying too high a price for any convenience which the widening of the bridge may bring us: "the 100,000*l.* is a trifle to the city of London; but we have to pay a heavier price in the permanent disfigurement of one of the few great monumental structures our city possesses." That is what many other people will probably discover—after the mischief is done.

The *Engineering Magazine* contains an article by Mr. A. Lazenby on "Advanced Methods in a British Engineering Workshop," the "workshop" being the Victoria works of Messrs. Willans & Robinson. Among the advanced methods it is mentioned that the firm have for a long time been in the habit of standardising their principal productions, and making all corresponding parts of the same size interchangeable. In order to ensure this, the different parts are invariably made in quantities, and an elaborate system of gauges and templates is maintained and a special department forming part of the machine shop is set aside for their manufacture and storage. The following statement as to the relations of the firm with their employees is of interest at the present moment:—

"In dealing with their workmen the company have adopted the premium system so far as is possible. Every standard part has a certain 'reference rate' as a basis of payment, and if the workman produces it more cheaply the difference is divided in equal proportions between himself and the company. Certain regulations are in force for preventing the arbitrary cutting down of rates and so depriving the workman of his reward for increased skill, and the arrangement has been found to work satisfactorily to both sides. In the great engineers' strike of 1899 not a single man left the company's employment, and the only trouble experienced was from the difficulty of obtaining raw material. Most of the members of the staff received a contingent salary, dependent upon the general profits, in addition to the fixed stipend."

Feilden's Magazine has an article by Mr. J. H. Dales on "high-speed" engines; not locomotives, but stationary engines working at high speed, and their advantages in economy and safety. The subject is a very interesting one to all who have an interest in machinery at all, and is to be continued. There is also an article on "The Design and Construction of Groynes" by Mr. R. G. Allanson-Winn. The most important point in the paper is the author's advocacy of slanting groynes, rather than groynes at right angles to the sea line; and his reasons for the recommendation, and his experience as to the action of slanting groynes, should be considered.

The *Gentleman's Magazine* contains an interesting historical and archæological article on "The Three Towers of Grasse," by Mr. F. G. Dunlop-Wallace-Goodbody (we reproduce conscientiously both the hyphens), and in the same number is a paper on "Jewelry (*sic*) and Gems" by Miss Emily Hill, which contains some information and also some sensible remarks on the æsthetic side of the subject.

In *Knowledge* Mr. W. F. Denning's article on "The Real Paths of Fireballs and Shooting Stars" may assist ordinary observers of these beautiful phenomena to form a clearer conception of the actual scientifically ascertained facts in regard to their flight and distance.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.—Mr. Arthur Evans having, for reasons of health, been obliged to postpone his paper on "The Palace of Knossos in Crete," the general meeting of the Institute fixed for Monday, December 16, will not take place.

THE ARCHITECTURAL ASSOCIATION DISCUSSION SECTION.

THE third meeting of the Discussion Section was held at 56, Great Marlborough-street, W., on the 6th inst., Mr. R. H. Weymouth presiding.

The minutes of the last meeting were read and confirmed. During question time several questions were asked and answered by the members.

The Chairman then called upon Mr. Sydney Perks to read a paper entitled "The Ethics of Dilapidations." The discussion was commenced by Mr. Geo. H. Smith, who proposed a vote of thanks to Mr. Perks for his interesting paper, in which the somewhat dry subject of dilapidations had been exhaustively treated. The vote of thanks was seconded by Mr. Trent Brown, who advocated the preparation of a schedule of dilapidations at the commencement of tenancy.

The following gentlemen joined in the discussion, which was of a most instructive nature, viz.:—Messrs. Nicholson, F. G. Buss, C. H. Brodie, W. B. Hopkins, and Louis Jacob.

Mr. Douglass Mathews, who had kindly consented to be present as Special Visitor, then proceeded to sum up the discussion in a practical manner by giving the members the benefit of his experience.

The vote of thanks was carried with acclamation. Mr. Perks having replied, the meeting terminated.

It was announced that the next meeting would be held on Friday, December 20, when Mr. Howard Humphreys will read a paper on "Cement and Cement Testing."

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—There was a crowded attendance at the meeting of this Institution on December 6th, held at the Westminster Palace Hotel, the Chairman (Mr. Percival Marshall) presiding, the paper read being on "Street Railway Construction for Electric Traction," by Mr. F. S. Pilling (member), of Devonport. In introducing the subject, the author pointed out how necessary it was in laying out a tramway scheme to keep well in mind the object of such an undertaking, viz., to attract the largest possible number of passengers. Unless the engineer were familiar with the working of the system from the traffic-manager's point of view, there would ultimately be failure somewhere, preventing the lines from being worked at their full earning capacity. Reference was made to the arrangement of termini as affecting the car mileage, and to the mistake often committed of constructing double junctions between main and branch lines with no provision on the main line at the junction for transferring a car from one line to the other, with the result that when the cars were being distributed in the morning and were returning in the evening, they frequently had a profitless run of perhaps 300 or 400 yards to the nearest cross-over in order to be transferred to the right line outwards or inwards. The objections to constant radius curves were dwelt upon, and the writer showed that the application of railway practice to permanent-way construction for tramways on public highways was a mistake. In considering the construction of the track the difficulty was to make and maintain it in an absolutely rigid condition. The weakness arose in the jointing of the rails, the most satisfactory type of which at present, to meet British requirements, was the girder with a weight of not less than 90 lbs. per yard. Considerations affecting the design of rail section for electric traction purposes were then entered into, and the chemical composition touched upon. In treating the question of rail-joints, and to show the necessity of perfect rigidity in them, the author theoretically investigated the problem of a loaded car meeting with obstruction through an imperfect joint, proving that the defacing force of the blow upon the joint would be equal to that given by a steam hammer, the head of which weighed 4,000 lbs., falling at a velocity of practically 3 ft. per second at the moment of impact. Sole plates were not to be commended. The adoption of a deeper rail section with a very much wider sole than is usually employed, together with the use of deep-ribbed fish-plates secured by means of six pairs of bolts, would probably be found advantageous, the bonds taking the form of copper rivets of large area, compressed into holes

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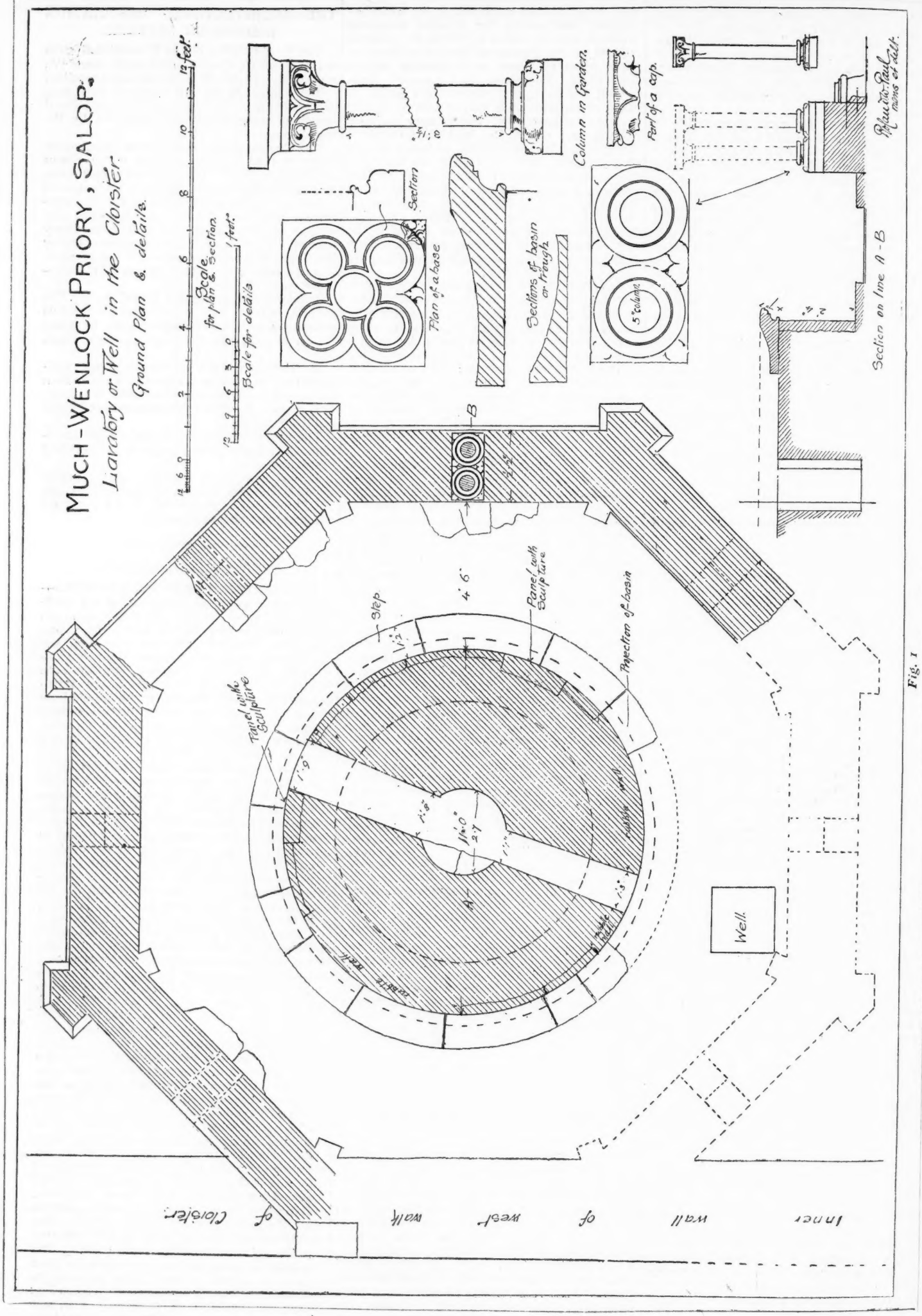

drilled through both plates and the web of the rail. Reference was made to the Falk system of cast weld solid jointing, it being stated that the joint produced was an expensive one and liable to fracture, though the percentage of failures was claimed to be extremely low. The processes in connexion with rail-laying were then dealt with, and the very great importance of good bonding was emphasised. Points and crossings having been considered, questions relating to the preparation of the concrete forming the bedding were treated, and in conclusion the best materials to employ in the laying of the paving were considered, the use of all kinds of wood-block paving being regarded as unsuitable. In the discussion which followed, Messrs. A. F. Gatrill, A. H. Stanley, H. Stevens, A. H. Tyler, V. H. Chabot, W. J. Tennant, T. C. Morewood, K. Gray, L. H. Rugg, C. J. McNaught, T. E. Moorhouse, and the Chairman took part, and the proceedings

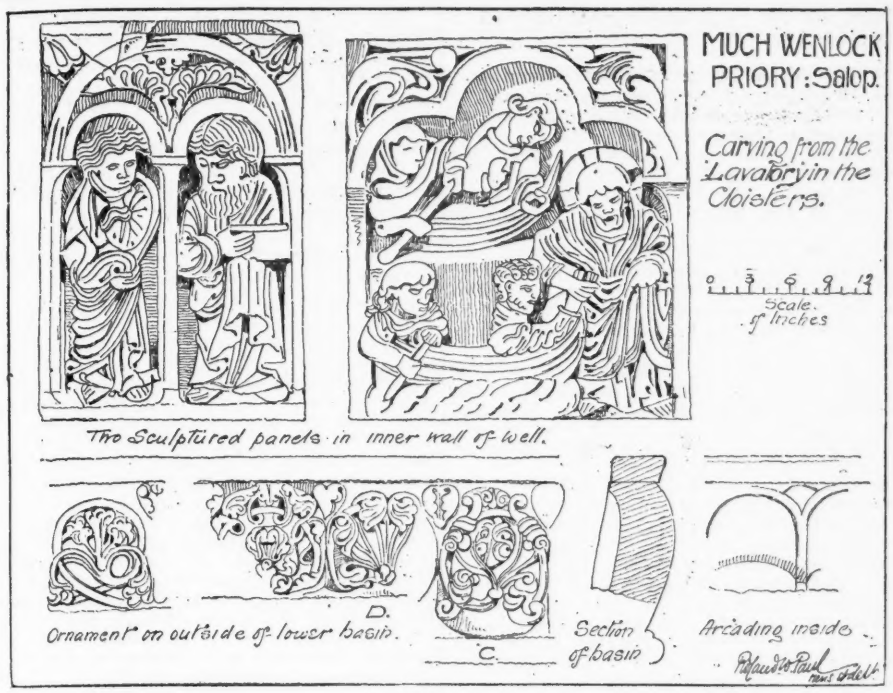

Fig. 2.

closed with the announcement of the visit on Saturday afternoon, December 14, to the Croydon Corporation Combined Electric Light and Traction Works.

SOCIETY OF ENGINEERS.—The forty-eighth annual general meeting of the Society of Engineers was held on December 9, at the offices of the Society, 17, Victoria-street, Westminster. The chair was occupied by Mr. Charles Mason, President. The following gentlemen were duly elected by ballot as the Council and officers for 1902, viz.:—As President, Mr. Percy Griffith; as Vice-Presidents, Messrs. James Patten Barber, David Butler Butler, and Nicholas James West; as ordinary members of Council, Messrs. Joseph Bernays, G. A. Pryce Cuxson, George A. Goodwin, W. H. Holttum, R. St. George Moore, Henry Sherley-Price, Joseph W. Wilson, and Maurice Wilson; as hon. secretary and treasurer, Mr. George Burt; as hon. auditor, Mr. Samuel Wood, F.C.A.

NORTHAMPTON INSTITUTE, CLERKENWELL.—On Friday, the 6th inst., the Marquis of Northampton presented the prizes and certificates awarded to students at the Northampton Institute (City Polytechnic, St. John-street-road, Clerkenwell) during the last session. In his address to the students the Marquis said that in these days of keen foreign competition the provision of a higher standard of technical education was absolutely necessary, and it was the duty of those to whom such opportunities were afforded to make the utmost use of them. They should remember that the true object of education was not merely self-advancement, but the general welfare of the nation, and if it were true that foreigners were ahead of us in the matter of technical education, he was heartily glad the fact was being emphasised, for it would stimulate our efforts to maintain and improve our position.—During the evening the workshops and classrooms of the Institute were open to visitors to view the exhibits and witness demonstrations of the students' ability. In the artistic crafts' department were shown some specimens of decorative metal work for architectural and general purposes. These were executed by instructors and students, and comprised chandeliers, lamps, electroliers, screens, and general fittings of good design and finish. An exhibition of building materials contained examples of plasterers' work and brick arches of varied style at different stages of construction, and a demonstration showed that the work is done with care and accuracy. The permanent exhibits are very interesting, and include a large number of models illustrating the principal styles of architecture, some delicately carved panels and ornaments of French and Flemish origin, and several plaster casts of lock plates belonging to the fifteenth century.

PARISH HALL, COALBROOKDALE, SHROPSHIRE.—This hall has just been completed by the contractor, Mr. T. Pace, of Shrewsbury. Due regard in designing has been paid to its wooded hill surroundings, the materials employed being Ruabon bricks with Grimshill stone dressings and red Lightmoor tiles. The main hall has a semi-octagonal roof with carved and traceried trusses. Mr. Harbottle Reed, of Exeter, is the architect.

MUCH WENLOCK PRIORY, SALOP.

IN the cloister court of the ruined Cluniac monastery at Much Wenlock are the foundations of a building which, when perfect, seems to have been a fountain well and lavatory (fig. 1). It consists of a circular centre 11 ft. in diameter, the sides about 2 ft. 4 in. in height, enclosed at a distance of 4 ft. 6 in. by a wall 2 ft. 2 in. thick, octagonal in shape, with the bases of pilaster buttresses and vaulting shafts at the angles. The west side of the octagon coincides with the inner wall of the west alley of the cloister, from which it was evidently approached. The outer octagonal wall exists only for a height of about a couple of feet above the ground line, but from various details now placed on the walls, each side appears to have had an arcade of two bays supported in the centre by the coupled columns, of which a perfect example still exists in the garden near the cloister. A base showing a group of five columns may have formed the central shaft of the west entrance from the cloister.

The face of the circular well or fountain consists chiefly of slabs of stone, 2 ft. 4 in. in height and about 4 in. in thickness, and rubble walling of more recent date. On the east and north sides are two sculptured panels, one with

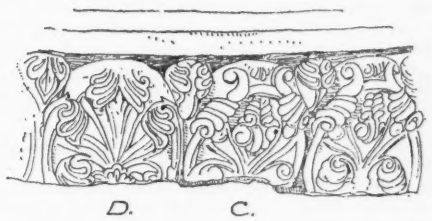

Fig. 3.—Ornament (reversed) from a Rock Dwelling Illustrated in Mrs. Bishop's Book, "The Yangtze Valley and Beyond."

two saints under a Norman arcade, and the other apparently of slightly later date, with a representation of what appears to be Christ walking on the water. The space between the lower boat and the bottom of the panel is occupied by fishes. Arranged on the walls of the well are several fragments of the lower trough or basin; there are remains of more than one of these. In one example, the outside is covered with elaborate carving of a conventional type (fig. 2), and the inside is arcaded. Most of these details are here illustrated, and also a ground plan given of the foundations and walls remaining. A ground plan of the abbey (made by Mr. T. L. Worthington) was given in the *Builder*, May 23, 1885, and the position of the well is shown, although the line of the west walk of the cloister is omitted. Its position, however, is easily shown by the doorways in the north and south walls of the cloister, from the church and frater respectively.

Within a few days of making the drawings of the well at Much Wenlock, I happened to see Mrs. Bishop's book entitled "The Yangtze Valley and Beyond" (John Murray, 1899). On page 468 a stone frieze from a rock dwelling on the banks of the Min River is described and illustrated, the conventional ornament on it (fig. 3) being identical with that on some of the fragments of the well at Wenlock. The carved stones at Wenlock have all the appearance of having formed part of the building on which they are now placed, and I have so far been unable to get any evidence that they have been brought from abroad.

If the work at Wenlock originally belonged to the well, the exact similarity of pattern is remarkable.

In the carved frieze shown in Mrs. Bishop's book the pattern is the reverse of that at Wenlock. In the tracing here given it has been inverted so that the comparison between the two can be more easily made.

ROLAND W. PAUL.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Mr. A. M. Torrance, Chairman, presiding.

Strike at Horton Asylum.—Mr. Beachcroft asked the Chairman of the Finance Committee if he had anything to report with reference to the strike which took place at Horton Asylum about three weeks ago, and which caused a number of bricklayers, labourers, and others to be without employment.

Lord Welby said the Works Sub-Committee had received a deputation that day, and had had a full conversation as to the disagreement between the bricklayers and tilers. He hoped the matter would soon be settled.

Overhanging Structures.—Several petitions were presented against the proposed by-laws as to height and weight of shop blinds, lamps, &c., overhanging the footways, and at a later stage of the sitting Mr. Goddard Clarke, Chairman of the Building Act Committee, stated, in reply to Mr. Pomeroy, that the proposed by-laws had been circulated in draft for the observations of Local Authorities, but would not be presented to the Council for discussion until next year. Meanwhile, he might say that the public need not fear any such drastic proposals as had been rumoured.

Loans.—On the recommendation of the Finance Committee it was agreed to lend Battersea Borough Council 10,000*l.* for electric light installation and 3,815*l.* for street improvements; the Hackney Borough Council, 35,800*l.* for electric light installation and dust destructor; the Kensington Borough Council, 14,400*l.* for street improvement; the Lewisham Borough Council, 1,325*l.* for laying out an open space; the St. Pancras Borough Council, 18,210*l.* for electric light installation and meters; the Shoreditch Borough Council, 5,300*l.* for the erection of lodging-houses; the Westminster City Council, 24,000*l.* for alterations to the Town Hall; the Mile End Old Town Guardians, 1,575*l.* for paving works at workhouse; and the Wandsworth and Clapham Guardians, 1,270*l.* for alterations at the workhouse.

Improvements.—The Improvements Committee recommended, and after discussion it was agreed—(*a*) That the estimate of 2,614*l.* submitted by the Finance Committee be approved, and that a contribution be made on the usual conditions of two-thirds of the net cost of the widening of King's-road, Chelsea, at Nos. 157 to 165, Nos. 204 to 230, and Nos. 303 to 341, proposed to be undertaken by the Council of the Metropolitan Borough of Chelsea. (*b*) That the estimate of 428*l.* submitted by the Finance Committee be approved, and that a contribution be made on the usual conditions of one-half of the net cost of the widening of Beaufort-street to 50 ft. proposed to be undertaken by the Council of the Metropolitan Borough of Chelsea. It was also agreed: That the estimate of 7,550*l.* submitted by the Finance Committee be approved, and that a contribution be made on the usual conditions of one-half of the net cost of widening Brompton-road between Brompton-square and No. 186, Brompton-road, proposed to be undertaken by the Council of the Metropolitan Borough of Kensington.

Tramways.—The Parliamentary Committee recommended, and it was agreed, that the London County Council (Tramways and Improvements) Bill be approved, that the seal of the Council be affixed to a petition for leave to

bring in the Bill, and that the Bill and petition be deposited pursuant to the Standing Orders of Parliament, with such necessary alterations (if any) in the Bill as the Parliamentary Committee may consider desirable.

The Council seek power to construct the following tramways :—

Seven Sisters-road (existing lines), via Amhurst Park, to Upper Clapton-road (existing lines).

Chelsea Bridge (north end), via Grosvenor-road, to a point near Lambeth Bridge.

Hampstead-road, across Euston-road and along Tottenham Court-road, to a point near Oxford-street.

Edgware-road (from a point near the Marble Arch), to the County boundary at Cricklewood.

Hammersmith Broadway, via Queen's-street, Fulham Palace-road, High-street, Fulham, and Putney Bridge to the Lower Richmond-road.

Along the Victoria Embankment from a point near Westminster Bridge to a point near Blackfriars Bridge.

Along Elgin-avenue, from Maida-vale to Harrow-road.

Clapham Common, south side (existing tramways), via Clapham Common, Battersea-rise, Wandsworth Common, north side, East-hill, and West-hill, to the County boundary in Kingston-road.

Deptford (existing tramways), via Blackheath road and hill, Shooter's Hill-road, to the Herbert Hospital, and from thence via Woolwich Common-road, the road to the west of St. George's (garrison) Church into New-road, and Thomas-street and Green's End to Beresford-square, Woolwich, and returning along New-road and Mill-lane to a point in Woolwich Common-road near Nightingale-place.

New Cross-road to High-street, Lewisham.

Streatham High-street via Streatham High-road, to the County boundary at Norbury.

Camberwell-green via Denmark Hill, Champion Park, Grove-vale and Lordship-lane, to a point near the intersection of that thoroughfare with Crystal Palace-road.

Trafalgar-road, Greenwich, via Blackheath-lane, to a point near the southern approach to the Blackwall Tunnel.

Herbert Hospital, via Wellhall-lane, to Eltham.

The Bill also seeks powers to run necessary omnibus services, and also to widen various thoroughfares.

The Highways Committee recommended, and it was agreed :—

"That the underground system of electrical traction, submitted by the Highways Committee, be approved for use on the London County Council Tramways between—(*a*) Kennington-road, at its junction with Westminster Bridge-road, and St. George's Circus; (*b*) the Elephant and Castle via New and Old Kent-roads, and New Cross-gate; (*c*) the Elephant and Castle and St. George's Church, Borough, and thence to the junction of New and Old Kent-roads; (*d*) the Elephant and Castle, via Walworth-road and Camberwell-road, and New Cross-gate; (*e*) Camberwell Green and the terminus near Vauxhall Bridge; and (*f*) Kennington Park-road and Brixton-road."

The Underground Tramways Scheme.—The Parliamentary Committee also brought up a draft, which they recommended the Council to adopt, of the London County Council (Subways and Tramways) Bill, which proposes the construction of a shallow underground tramway from the Victoria Embankment to Holborn.

The Council approved the Bill.

View from Richmond-hill.—The London County Council (General Powers) Bill combines a large variety of subjects, including the purchase of three properties for addition to public parks, the Marble-hill scheme for the preservation of the view from Richmond-hill, and common lodging-houses.

Lord Monkswell, Chairman of the Parks Committee, stated that the option of purchase by the Council of the Marble-hill estate had been extended to June 30, 1902.

The Bill was approved.

The Electric Supply Bill.—This measure deals with the purchase of electric supply undertakings by Local Authorities, and proposes also to give the County Council power to supply electricity in bulk to Borough Councils desiring it.

The Council approved the Bill.

The Water Purchase Bill.—The Parliamentary Committee submitted a resolution for a Bill for the purchase by the Council of the undertakings of the eight metropolitan water companies, on similar lines to the rejected projects of previous Sessions.

The Council adopted the recommendation of the Committee to proceed with the Bill.

Rules for Theatres Licensed by the Council.—The Theatres and Music Halls Committee submitted a revised code of rules and regulations for theatres licensed by the Council. The following are the rules which principally affect our readers :—

5. All doors and barriers must open outwards.

6. All gangways, passages, and staircases must be kept entirely free from chairs or any other obstructions, whether permanent or temporary.

7. All exit and other doors or openings used by the public for the purposes of exit must be indicated by notices clearly painted to the satisfaction of the Council in 7-in. letters. Such notices must be painted over such doors or openings at a height of at least 6 ft. 9 in. above the floor. The words "No Exit" must be clearly painted to the satisfaction of the Council in 7-in. letters at least 6 ft. 9 in. above the floor, over all doors or openings, which are in sight of the audience, but which do not lead to exits.

8. All doors used for purposes of exit must, if fastened during the time the public are in the building, be secured during such time by automatic bolts only, of a pattern and position to be approved by the Council, and the management must allow the public to leave by all exit doors.

9. All curtains covering doors or in passages must be hung so as not to trail on the ground.

10. An ample water supply, with hose and pipes, shall be available to all parts of the house, where possible on the high-pressure main.

11. All fixed and ordinary gas burners on or about the stage must be furnished with efficient guards; movable and occasional lights must be, where possible, protected in the same manner, and put under charge of persons responsible for lighting, watching, and extinguishing them.

12. All gas pipes must be made of iron or brass.

13. An additional means of lighting for use in the event of the principal system being extinguished must be provided in the auditorium, corridors, passages, exits, and staircases, and if oil or candle lamps are used for this purpose they must be of a pattern to be approved by the Council, properly secured to an uninflammable base out of reach of the public. Such lamps must be kept alight during the whole time the public are in the premises, and no mineral oil must be used in them.

14. The rows and lines of lights and gas burners in the wings must commence 4 ft. at least from the level of the stage, and be protected by fixed iron wire guards.

15. Blankets or rugs, and buckets filled with water must be always kept on the stage and in the flies, scene docks and immediate passages approaching the dressing-rooms, ready for instant use, and attention must be directed to them by placards legibly printed or painted and fixed immediately above them. Some person must be held responsible by the management for keeping the blankets or rugs and fire appliances ready for immediate use.

16. Hatchets, hooks, ladders, and other appliances for taking down hanging scenery in case of fire, where such scenery is in use, must be always kept in readiness for immediate use.

17. Information of any outbreak of fire, however slight, must be at once communicated to the Metropolitan Fire Brigade.

18. The corridors must not be used as cloak-rooms, and no pegs for hanging hats and cloaks shall be allowed therein.

19. No decoration, or construction for the purpose of decoration must be employed in dressing-rooms which does not adhere without any cavities to the surface of the wall.

20. All open fireplaces or stoves must be protected by strong fixed iron wire guards and fenders, part of which may be made to open for all necessary purposes.

21. All gas burners within reach of the audience must be protected by glass or wire globes.

22. All gas taps within reach of the public must be made secret.

23. The fire-resisting screen fitted in the proscenium opening must be worked daily in the presence of the audience so as to ensure the arrangements being in proper order.

27. All hangings, curtains, and draperies must be rendered non-inflammable.

30. No structural alteration must be made in the theatre without the sanction of the Council. Plans and particulars of such proposed alterations must be sent to the Clerk of the Council.

31. The manager is held solely and entirely responsible for the carrying out of the above regulations, for the management of the theatre before and behind the curtain, and for the safety of the public and the employees in the event of fire or panic.

33. The following notice to the public shall be printed on the programme of the performance or legibly exhibited in every part of the theatre :—

In accordance with the requirements of the London County Council—

(1) The public may leave the theatre at the end of the performance by all exit doors.

(2) The fireproof screen to the proscenium opening is lowered at least once during every performance to ensure its being in proper working order.

The Report was adopted, with an additional rule, taken from the Lord Chamberlain's regulations, as to the counterweighting of drop scenes and the testing of the apparatus.

The Proposed American Building in the Strand.—Mr. Hubbard, Chairman of the Corporate Property Committee, stated, in reply to Mr. R. Williams, that the offer of the American syndicate to lease a large portion of the proposed crescent site in the Strand had been referred to the valuer and the solicitor.

Tender.—It was agreed to expend 261*l.* on repairing portions of the wood paving of the carriage-way of Westminster Bridge.

Houses of Historic Interest in London.—The Historical Records and Buildings Committee brought up the following Report :—

"Many houses in London are of considerable interest owing to the fact that they have been associated with historical events or distinguished individuals, and, in our opinion, one of the most important matters in which the Council, under the powers of the two Acts of Parliament authorising such work, can with advantage take action, is to arrange for some suitable indication being given of the associations connected with such houses. As a matter of fact, the Society of Arts has for some time past been engaged in work in this direction, and has affixed memorial tablets on thirty-four houses which have been the residences of celebrated men and women. We take this opportunity of expressing our appreciation of the public-spirited action of the Society in the matter, and we think that, if carried out systematically, a very valuable work could in time be accomplished all over London. Unfortunately the Society are not able to give that attention to the work which is desirable, and they have intimated to us that they would very gladly see the work performed by the Council. We have accordingly been in communication with the Society on this latter point, and have now received a letter, in which they express their readiness to place at the Council's disposal whatever information they have collected on the subject, and to afford the Council in the future any assistance in their power. In these circumstances we have no hesitation in recommending the Council to take over the work. In the event of the Council agreeing with our recommendation, we do not propose to incur any expenditure in connexion with the work during the present financial year, but the necessary provision will of course be made in next year's estimates, and we would observe that this would not extend beyond a sum necessary to purchase the required number of wall plates. We recommend—'That, subject to the passing of the annual maintenance estimates for 1902-3, the work of indicating houses of historical interest in London be undertaken by the Council, and that it be referred to the Historical Records and Buildings Committee to make the necessary arrangements for the execution of the work.'"

Shops and Dwellings, Shoreditch.—The Housing Committee recommended, and it was agreed :—

"That the sketch plans submitted by the Council of the Metropolitan Borough of Shoreditch of the shops, with dwellings over, proposed to be erected on plots 6, 8, and 10 of the area cleared under the Moira-place and Plumber's-place scheme, be approved, subject (*a*) to the details of planning as to the water-closets and sculleries, and as to the size of the bedrooms being amended to the satisfaction of the Council's architect, and (*b*) to any necessary approval under the London Building Acts being subsequently obtained."

The Council adjourned shortly after seven o'clock.

ARCHITECTURAL SOCIETIES.

LIVERPOOL ARCHITECTURAL SOCIETY.—The members of the Liverpool Architectural Society met at the Law Library, Castle-street, on the 2nd inst., when Mr. C. E. Bateman delivered an address on "Castle Bromwich Church." He dealt in detail with the construction of the church and its chief architectural features, his remarks being illustrated by lantern slides and plans.

YORK ARCHITECTURAL SOCIETY.—The members of the York Architectural Society held their annual dinner in the White Swan Hotel, Pavement, recently. Mr. C. H. Channon, F.R.I.B.A., member of the Council of the Royal Institute, presided. The loyal toasts having been honoured, Mr. A. B. Burleigh proposed "The Archbishop of York, the Clergy, and Ministers of all Denominations." There was, he said, a bond of union between architects and the Church, and there was, or should be, mutual good feeling existing between them. The holy men of yore were architects. Our minsters, our abbeys, which, he was sorry to say, were now in ruins, were the work of those men. They were not only architects, but were builders too; they knew how to erect as well as to design. In speaking of the Dean, he said he had a great work in hand—the restoration of York Minster. That building had withstood the ravages of time. Others had

gone to decay, like St. Mary's Abbey, Rievaulx, and Fountains, but York Minster stood to-day the same as when it was completed. Unfortunately, decay was shown in the exterior, and in Mr. Bodley they had one of the ablest men engaged in its restoration; he was not only an architect, but he was an artist. The Dean should have the support of every man in Yorkshire in the great work he had undertaken to restore the Minster.—The Rev. G. H. Hewison responded, and expressed the belief that as fine buildings could be built in the present day as in the Middle Ages if we only had the money to spend on the work of erection.—Mr. A. Pollard proposed "The Royal Institute of British Architects and Allied Societies." Though the parent society was not an educational society, he expressed the hope that the day was not far distant before it would be able to see its way to helping the members to gain a thorough grounding in their profession.—Mr. W. J. Locke, secretary of the Institute, in responding, said that the President and Mr. Alexander Graham, honorary secretary of the Institute, regretted very much their inability to be present. He went on to say that the Royal Institute thoroughly recognised the great aid which the allied societies had given to the Institute. He had heard, and he supposed all present had heard, rumours and complaints perhaps that the Institute existed chiefly for London men and did not pay sufficient attention to the interests of provincial men. He did not think that was the case; they regarded it as a matter of great importance that they should gain the co-operation of their brethren in the provinces. The question of professional status was a very burning one. He supposed that it was the same in York as in other provincial centres. The one cry was, "Our professional position is not recognised by the public." Those at the headquarters of the Royal Institute thoroughly appreciated the fact, and would do all they could to remedy it. One remedy proposed was a matter of vital importance, and that was registration. It was looked on as the panacea for all disabilities under which architects suffered. The Institute had been accused in many quarters of standing in the way of the great principle of registration, but as long as any registration is put forward in which sixty years of strenuous work and diplomas of the Institute were not recognised as the basis, as it were, of the closure to the profession, the Institute would not act. He said that whilst so many qualified members of the profession in England did not join the Royal Institute it would not be in a position to come before Parliament with a cry for registration. He urged the necessity of as many qualified members of the profession as possible coming into the ranks of the Institute. Their professional status needed strengthening and the public needed education in architecture, not only on the artistic side, but on the professional side. Every day brought forward some curious instance of the public ignorance in this respect. It seemed the absolute duty of the profession and the societies which they represented to do all they possibly could to raise the status of the profession.—Mr. Butler Wilson also replied, and spoke of the enormous amount of work which was done at the Royal Institute. He contended that the Institute showed a willingness to help in every way the formation of allied societies, and if those societies took advantage of what was offered to them by the Institute he felt certain that their membership would increase, and the importance of the Royal Institute would increase also. He spoke on the matter of competitions, and expressed himself in favour of the present mode of the President of the Institute appointing assessors. In arranging competitions, it was exceedingly important that the public should be educated to understand that in competitions fair play must be given all round. The Rev. H. Mayall proposed "The York Architectural Society," which was replied to by the President. "Prosperity to the City of York" was proposed by Mr. H. Perkin, and replied to by Alderman Purnell, and this concluded the toast list.

ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY, NORTHAMPTON AND OLDHAM.—The fifty-sixth annual meeting of the Architectural and Archæological Society for the Archdeaconries of Northampton and Oldham was held at the Society's rooms, Sheep-street, Northampton, on Monday morning. Previous to the meeting a committee meeting was held, when new members were elected and books presented to the Society were acknowledged. At the annual meeting the chair was taken by the Rev. A. W. Pultney, and Mr. Wentworth Vernon was elected vice-president in the place of Sir Charles Isham resigned. The committee was re-elected with the addition of the Rev. F. Churchill, and the hon. secs., Mr. C. A. Markham and the Rev. A. K. Pavey, were also re-elected. Mr. J. A. Gotch then read a paper on "Renaissance Architecture in Northamptonshire." Mr. Gotch said that to many people the word "renaissance" conveyed different meanings, but he desired that it should indicate that period of architecture which was in effect the transition from the Gothic to the Classic. So far as Northamptonshire was concerned, the Italian forms did not seem to have obtained a very great footing except in the matter of tombs. The first example of this work was a piece of panelling and chimney-piece at Deene Hall; and Italian forms affected to a more or less extent church architecture, but they had not very many examples in the county of churches affected by the earlier work of Italian ornaments. Mr. Gotch showed photographs and plans of houses of this period, which included Dingley Hall, Holdenby House, Kirby Hall, Apethorpe House, Canons Ashby Hall, Burleigh House, and other well-known examples in the county.

ARCHITECTURAL ASSOCIATION OF IRELAND.—At an ordinary general meeting of this Association, held at 20, Lincoln-place, Dublin, on Tuesday evening, December 3, Mr. G. F. Sheridan in the chair, two short papers were read. The first, by Mr. E. Bradbury (one of the Honorary Secretaries), dealt with Northamptonshire as a field for sketching and study for architects, and in it the lecturer described briefly, and in some cases illustrated by sketches, a large number of churches and old houses in the villages and towns of Northamptonshire. In proposing a vote of thanks to the lecturer, Mr. F. G. Hicks suggested that it might be possible to arrange that a party made up of members of the Association should, during the ensuing summer, visit some of the places described, a proposal which met with considerable approval. Mr. T. E. Hudman also gave a short lecture on "Architectural Odds and Ends," in which he described a few strange experiences he had had whilst on sketching trips, and also some interesting, but very little known, facts in connexion with matters of an architectural nature.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.—At the meeting on December 6, the President, Mr. W. H. Bidlake, in the chair, Mr. H. H. Statham read a paper on the "Architectural Treatment of Bridges." He said the question was quite a recent one, for in the Mediæval period bridges were only regarded as utilitarian structures and not built to be picturesque, though we might think them picturesque now; and in the modern period bridges till recently were considered almost entirely as practical engineer's work, and in some respects rightly, since foundations in deep water were out of the scope of an architect's experience and education. Recently it had begun to be perceived that bridges in large cities might have an important effect on city architecture, and engineers had got an idea that bridges should be "handsome," but their attempts in the way of design had been exceedingly unfortunate. The question, therefore, had now arisen, whether in England, as in France, architects ought not to be commissioned to take part in the design of such structures. Bridges might be classed under three heads; those entirely of masonry; those of masonry piers and steel spans; and those of steel entirely. The latter were best treated as pure construction, with no attempt at ornament; the structural lines giving the interest to them. Bridges entirely of masonry were among the most fascinating of structures, and had so much of the element of architectural effect in them that even if left quite plain they could not but be fine objects. In a city, however, it was not only legitimate but desirable to treat a monumental bridge so as to connect the architecture on the two banks, carrying the architectural effect across the river. And in such bridges it appeared to him that the superstructure was really more architectural than engineering work; and that instead of an engineer being commissioned to build a bridge with an architect to assist him in the architectural details, it might be more rightly put that an architect should be commissioned to build it, with an engineer to lay the foundations. If an architect could not build a large arch, what was the good of him? The treatment of masonry bridges might be considered under the heads of the pier, the arch, the spandrels, and the horizontal or nearly horizontal lines of cornice and parapet. The pier was generally brought out beyond the line of the arch-plane, both for real and apparent solidity; and this projection should be treated as what it really was—a buttress, not as a place for columns or pilasters, especially not such absurd over-grown stumpy columns as they had seen in Blackfriars Bridge and other recent engineering works. The lower portion of the pier, subjected to the stress of the water, should rightly be treated differently from the upper portion, as it had a special function. In a tidal river it should be formed on both faces as a cut-water, but in a stream only the up-stream face should take that form; a certain rounding off on the down-stream side was desirable, but not to make both sides the same, which was like designing the stem and stern of a ship on the same lines. As to the form of the arch, a semi-circular arch, though it looked very well, was impossible in these days, as it did not allow a sufficiently wide waterway. They had the choice of the elliptical or the segmental arch. The former was the finest in appearance, and had the advantage that it gave a higher headway near the piers, and sprung from them tangentially, whereas a wide and shallow segmental arch made a harsh angle with the pier, and had the appearance of being jammed between the piers instead of springing from them. An elliptical arch would be somewhat flatter in the crown than a segmental arch of the same span and rise, and hence required more careful construction. The system of building the soffit of the arch in a series of parallel ribs, often used in mediæval bridges, added an appearance of power to a moderate sized bridge, but in a bridge on the largest scale perhaps it was not so fine as the sweep of the flat unbroken soffit. The treatment of the spandrels of the arches would depend a little on the treatment of the arch. If, as in London Bridge, the rustication of the voussoirs was on the same plane with that of the spandrel masonry, the latter was best left quite plain. If, on the other hand, the voussoirs were strongly accentuated so as to leave a well-defined spandrel, then the spandrel might be a field for decorative treatment, either by the introduction of a medallion or an escutcheon in the centre, or, in the case of a comparatively small bridge, by filling up the space with bas-relief sculpture. On a bridge of the largest size this would hardly do, as the sculpture would have to be on too large a scale, and moreover filling up so large a space with ornamental treatment would destroy the severe and monumental character proper to a great bridge. There was at all events one thing *not* to do with the spandrel—not to fill it up with a panel following the bounding lines of the space. To do that was at once to destroy its masonic character and reduce it to a piece of joinery. In regard to the cornice and parapet lines, if the roadway of a large bridge could be kept perfectly level, as in Waterloo Bridge, then a massive cornice could be used, which would break round the projections of the piers; but where, as in most cases, the roadway had to be a raking line, a heavy cornice should be avoided—it was a feature too rigid for such a position; there should in that case be only a small cornice or corbel-table; and the raking lines of this and of the balustrade should not be carried round the piers, but should stop against them. To mitre the raking cornice and parapet round the piers was a common mistake, and was an illogical and unworkmanlike proceeding; the piers were vertical abutments, and any lines or string-courses on them should be truly horizontal; they should interrupt the rake of the balustrade and not partake of it. A number of lantern slides of various bridges were shown in illustration of the various points mentioned in the paper.

CHURCH, MARGATE.—The Archbishop of Canterbury consecrated recently the new district Church of St. Augustine of Canterbury at Margate. The church, which has been built from the designs of Mr. Dalby Reeve, of Margate, has been erected at a present cost of 5,000*l*. It is of brick, with Bath stone dressings, and consists of nave and aisles, to which it is intended to add an apsidal chancel at a further cost of 2,000*l*.

ARCHÆOLOGICAL SOCIETIES.

ROYAL ARCHÆOLOGICAL INSTITUTE. — At the general meeting on Wednesday, December 4, Mr. Emanuel Green in the chair, Mr. Alfred C. Fryer read a paper on "Fonts with Representations of the Seven Sacraments," and exhibited ninety-one lantern slides in illustration of his paper. There are twenty-nine fonts known upon which sculpture representing the seven sacraments have been carved. Sixteen are in Norfolk, eleven in Suffolk, one in Kent, and one in Somerset. The sacrament of Baptism is usually portrayed by the priest immersing a nude infant in an octagonal font, and he is accompanied by acolytes holding the open book of the ritual and the casket of holy oils. The bishop is generally depicted in these fifteenth century fonts vested in his long rochet and mozetta or tippet when giving Confirmation.

In every instance infants are being presented to the bishop and the child is held by the godfather or godmother according as it is a boy or a girl. In the panel representing the Holy Eucharist the sculptor has usually depicted the moment when the priest, standing before the altar, is elevating the chalice or the sacred Host. Candlesticks are found upon four of the altars, and acolytes holding tall flaming torches are depicted on five of the sculptures. At Woodbridge and Great Glenham the priest is communicating a man and a woman who hold a houseling-cloth before them, while at Farningham the priest is genuflecting after the consecration. The sacrament of Penance is depicted by a priest seated in a chair shriving a kneeling penitent, and is frequently accompanied by an angle with wings spread widely over both priest and penitent. The evil spirit with horned head and dragon wings is departing crestfallen and confounded. When the plaster was removed from the font at Gresham, in Norfolk, the evil spirit is said to have represented so dreadful an appearance that his figure was chipped away, and now only the outline remains. The sacrament of Extreme Unction is administered by a priest who is represented dipping his thumb in the holy oil and anointing the dying person. The sculpture at Gresham shows a circular object placed on the bed, which is doubtless the dish on which four lumps of cotton-wool are placed in the form of a cross, with which the priest wiped the places he had anointed. Holy Orders is portrayed by either the ordination of a priest or deacon. The bishop is generally vested in alb, tunicle, dalmatic, chasuble, and mitre, and, holding his pastoral staff in his left hand, he lays his right hand on the head of the kneeling candidate. If a sub-deacon is being ordained a deacon he is vested in a dalmatic, but if a deacon is being raised to the priesthood he is robed in a chasuble. Several ecclesiastics accompany the bishop; one holds the open book of the ritual, another the casket of holy oil, while another is doubtless the archdeacon, whose duty it was to present the candidate or ordination. At Nettlecombe, in Somerset, while the bishop is ordaining a candidate, a barber, dressed in a short tunic, hosen, boots, and round hat, is shaving a tonsure on the head of a figure seated on a low bench. The sacrament of Holy Matrimony is usually depicted at that crucial point in the ceremony when the priest is joining the hands of the couple and blessing them. At Brooke we find a woman standing behind the bride holding in her arm a red veil, probably intended for the pall which was held over the newly-married pair from the Sanctus in the celebration of the Holy Eucharist until the conclusion of the nuptial benediction after the Paternoster. At Woodbridge the bridegroom is depicted as placing the ring on the thumb, forefinger, middle finger, and finally leaving it on the third finger of the bride, while the acolyte has partially closed the book, because the priest would say the words for the bridegroom to repeat in English. The eighth panel in these octagonal fonts is devoted to various subjects: the Crucifixion, Baptism of our Lord, the Last Judgment, the Assumption of the Virgin, &c. These fonts having representations of the seven sacraments upon them were made about the middle of the fifteenth century. The one at East Dereham was carved in A.D. 1468, and the church accounts state that it cost 12*l.* 13*s.* 9*d.*; but the one at Walsoken was a gift to that church in A.D. 1544. The women are represented in horned head-dresses on many of the fonts, showing that they were made about the period of Edward IV. The bridegroom in the panel for Matrimony at Badingham has a round turban cap of the date of about 1485, and at Great Glenham and Woodbridge the women appear in the butterfly headgear, so that these fonts may be dated about A.D. 1483. The Rev. H. Bedford Pim made some interesting remarks in the discussion on this paper.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The third meeting of the session was held on Wednesday, December 4, Dr. W. de Gray Birch, Hon. Treasurer, in the chair. A paper was read by Mr. A. R. Goddard upon "The Underground Strong-Room at Richborough," which was well illustrated by carefully drawn plans and conjectural sections of its possible construction. Notwithstanding the numerous explorations that have been made in the *Castrum Rutupiæ*, and all the theories suggested by antiquaries as to the reason for and the meaning and purpose of the vast work of masonry near the centre of the *Castrum*, discovered by Mr. Boys in 1792, it still preserves its secret intact; at once the hope and the despair of all who are interested in the Roman chapters of our national history. The recent explorations of Mr. Garstang have fixed the position of the missing wall of the *Castrum* to seaward, and have determined the area enclosed to have been about six acres; and near the middle of this enclosure is situated the remarkable vast platform of concrete, 145 ft. by 104 ft. and 5 ft. in thickness, with its super-imposed cross strips, the broader strips 47 ft. long by 22 ft. wide, about in a line with the Decuman Gate of the station, and the longer strip 87 ft., but only 7 ft. 6 in. wide at right angles to it. The thickness of these strips is 4 ft. 6 in., and they end abruptly, each at an equal distance of about 29 ft. from the edge of the platform. In 1822 the researches of Mr. Gleig revealed the fact that beneath this vast platform there existed a massive building, which he probed to a depth of 21 ft. from the underside of the platform, when water stopped his sinking further. This building is set far back from the outer edges of the platform to an extent of 10 ft. on the north and south sides and 12 ft. on the east and west sides, and thus it escaped the observation of Mr. Boys. In 1843 Mr. Rolfe excavated a passage, some 5 ft. in height and 3 ft. in width, round two sides and partly round the third side of this block, using the overhanging platform as a ceiling, and Mr. Dowker and the Rev. R. Drake in 1865 completed the passage and formed the underground gallery by which the four external sides of the building can now be explored. Mr. Goddard himself remeasured the block last October, and found it to be 126 ft. by 81 ft. What was the purpose of this singular building? Is it solid or is it hollow? No sign of any opening has as yet been discovered. Probing holes, with great labour, have been made in the walls to a depth of 20 ft. at various periods, but none have succeeded in penetrating any sealed enclosure, and the mystery remains unsolved. The platform is entirely covered with a rough coat of mortar 6 in. thick, thus effectually hiding any probable access from the top to any concealed chamber, and this mortar seems to have been intended to receive a marble pavement, as a small portion, *in situ*, was met with by Mr. Garstang. Mr. Goddard exhibited an enlarged drawing of the Castrum at Gamzigrad, from Kanitz's "Servia," which has much in common with the station at Richborough, and possesses a massive substructure nearly in the same relative position, very solid and conspicuous and still unexcavated. Having reviewed the various theories which have from time to time been set forth by antiquaries as to the purpose of this strange work, Mr. Goddard suggested two other possibilities of its use from the very necessities of the case; first, that it may have been for the storage of water for the use of the garrison and the fleets—a great piscina or reservoir, in fact, and he submitted a conjectural plan and section showing how the water could have been stored in various vaulted chambers, communicating with one another, similar to those at Fermos on the Adriatic, and near Baiae, and similar to such a piscina connected with one of the aqueducts near Rome, of which he showed a section. The second possibility is that it may have been the strong room of the station, its *Acrarium. Rutupiæ* was a very important centre, as the great point of connexion with Gaul. Some kind of strong room must have been needed for the bullion or moneys awaiting transport, and there is evidence also of a mint having been established at Rutupiæ. An interesting discussion took place, in which the chairman, Mr. Mill-Stephenson, Mr. Gould, Mr. Compton, and others, took part.

THE ROYAL ACADEMY PRIZE LIST.

THE following is the list of Royal Academy prize-winners in the Students' Competitions for this year:—

Historical Painting (Saul and the Witch of Endor—I. Samuel, xxviii. 7-14).—Gold medal and travelling studentship (200*l.*), George Murray; *proxime accessit*, Fred. Appleyard.

Landscape Painting (One of the Bridges over the Thames in London).—Turner Gold Medal and Scholarship (50*l.*), Osmond Pittman.

Landscape Painting (Cumulous Clouds over a Fen Country).—Creswick Prize (30*l.*), Osmond Pittman.

Painting of a Figure from the Life (open to male students only).—Silver Medal—1st, Frank Samuel Eastman; 2nd, Jas. P. Sidney Streatfield.

Painting of a head from the life.—Silver medal, 1st, Gertrude Lindsay; 2nd, Frederick Dallas Barnes.

Painting of a draped figure (open to female students only).—Silver medal, 1st, Lizzie Hands; 2nd, Annie Margaret Page.

Cartoon of a draped figure (A Mourner).—Silver medal and prize (25*l.*), Elsie Gregory.

Design in monochrome for a figure picture (The Sacrifice of Manoah—Judges xiii., 19-20).—Armitage Prizes—1st (30*l.*) and bronze medal, Ernest Board; 2nd (10*l.*), Alfred William Sangster.

Design for the decoration of a portion of a public building (the Maske of Cupid—Spenser's Faërie Queene," book iii., canto 12, v. to xxvi.).—Prize (40*l.*), Frank Samuel Eastman; *proxime accessit*, William Ewart Gladstone Solomon.

Set of six drawings of a figure from the life (open to male students only).—1st prize (50*l.*) and silver medal, Walter Ernest Webster; 2nd (25*l.*), William George Simmonds; 3rd (15*l.*), Jas. P. Sidney Streatfield; 4th (10*l.*), Frederick George Swaish. (Mr. Streatfield and Mr. Swaish were disqualified owing to having received a superior prize in the same competition before).

Drawing of a head from the life.—Silver medal—1st, Walter Percy Day; 2nd, John Hodgson Lobley.

Drawing of a statue or a group.—Silver medal—1st, John Hodgson Lobley; 2nd, Arthur Bentley Connor.

Perspective drawing in outline (open to painters and sculptors only).—(The Entrance-hall of the Royal Academy).—Silver medal, Ada Gladys Fuller.

Composition in sculpture (Boadicea urging the Britons to avenge her outraged daughters).—Gold medal and travelling studentship (200*l.*), Stanley Nicholson Babb.

Model of a design (The Expulsion of Adam and Eve from Paradise). 1st (30*l.*), Frederic Charles Chrisfield; 2nd (10*l.*), Frank Ransom.

Set of four models from the life (open to male students only).—1st (50*l.*) and silver medal, Alexander James Leslie; 2nd (20*l.*), Arthur Charles White.

Design for a medal (In Commemoration of the Death of Queen Victoria, with a head of the Queen on the obverse).—Silver medal, George Gilbert Walker.

Model of a bust from the life (open to female students only).—No competition.

Model of a statue or group.—Silver medal—1st, Louis Richard Garbe; 2nd, Elsbeth C. P. Rommel.

Designs in architecture (A town hall for one of the new London Borough Councils).—Gold medal and travelling studentship (200*l.*), Bernard Hugh Webb.

Set of architectural drawings (The Trinity House).—Silver medal—1st, Charles Thomas Palmer; 2nd, Percy Ion Elton.

Set of architectural designs (Upper school).—Prize (25*l.*), Francis Winton Newman.

Set of drawings of an architectural design (Lower school).—Prize (10*l.*), Thomas Gerard Davidson.

Plan of a building (A casino and pleasure grounds on the borders of a lake).—Prize (10*l.*), Lionel Upperton Grace.

Original composition in ornament.—No competition.

Perspective drawing in outline (open to architects only) [Lord Burlington's villa at Chiswick (published in Kent)].—Silver medal, Alfred Charles Bossom.

The Landseer scholarships in painting and sculpture, of 40*l.* a year each, tenable for two years, have been awarded—in painting, to Frank Samuel Eastman, Alfred William Sangster, and Frederick Dallas Barnes (extra); in sculpture, to Charles James Pibworth and Frank Ransom.

THE ART UNION OF LONDON.—The Art Union have produced for their presentation plate this year an etching by Mr. W. L. Wyllie of his large picture of the naval funeral procession of the late Queen, which was exhibited at the last Royal Academy. The etching is a fine reproduction of the picture, though, like all the Art Union's plates, it is of an unnecessary and inconvenient size.

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

THE London County Council on Tuesday dealt with the following applications under the London Building Act, 1894. Unless otherwise stated, consent was given on conditions. The names of applicants are given between parentheses :—

Lines of Frontage and Projections.

Norwood †—Three houses, with shops on the ground floor, on the west side of Knight's Hill-road, Norwood, at the corner of St. Julian's Farm-road (Mr. H. Blackbourn).—Consent.

Hampstead.—A timber-framed porch to a house in course of erection on the south-west side of Kidderpore-avenue, Hampstead (Mr. W. A. Burr for Mr. G. Estcourt).—Consent.

Deptford.—A one-story addition in front of a factory building at Crown Wharf, Grove-street, Deptford (Mr. A. G. Scott for Messrs. A. G. Scott & Co., Ltd.).—Refused.

Width of Way.

Norwood.—A one-story coachhouse and stable on the west side of Knight's Hill-mews, West Norwood (Mr. F. G. Baxendale for Mr. Agate).—Consent.

Formation of Streets.

Lewisham.—That an order be issued to Mr. A. W. Osborn, sanctioning the formation or laying out of two new streets for carriage traffic in continuation of Staplehurst-road and Fernbrook-road, Manor Park, Lee (for Messrs. Johnson & Aldridge).—Agreed.

Lewisham.—A deviation from the plan sanctioned for the formation of new streets for carriage traffic out of Laleham-road, Catford, on the site of the Catford sports ground, so far as relates to the position of the street to be named Engleheart-road, in continuation (Messrs. H. and G. Taylor).—Consent.

St. Pancras, North.—A deviation from the plan sanctioned for the formation of a new street for carriage traffic to lead from Highgate-road to Gordon House-road, St. Pancras, so far as relates to the position of the northern portion of such street (Messrs. Boehmer & Gibbs for Mr. A. W. Armstrong).—Consent.

Formation of Street, Space at Rear, and Height of Buildings.

Hampstead.—That an order be issued to Messrs. Palgrave & Co., sanctioning the formation or laying-out of a carriage-drive on the west side of West End-lane, Hampstead, and the erection on one side of such drive of four blocks of residential flats to exceed in height the width of such drive and with irregular open spaces at the rear of two of the blocks (Messrs. H. Reeves & Co.).—Consent.

The recommendation marked † is contrary to the views of the Local Authority.

Correspondence.

To the Editor of THE BUILDER.

"QUESTIONS" IN COMPETITIONS.

SIR,—Will you kindly favour us with space to draw attention to a matter which deserves the serious consideration of the profession generally, and particularly of those members of it whose practice includes competitive work. The conduct of competitions has often formed the subject of comment in your columns, but we do not remember that the point we have in mind has been discussed.

We refer to the opportunity frequently given to competitors to question the promoters upon points not made clear in the conditions issued. So long as questions are confined to this, the legitimate object of the arrangement, perhaps no harm is done, and there is probably no better way of clearing up doubts and ambiguities due to the loose way in which the conditions are frequently drawn up.

But the matter does not end there. In more than one instance recently the opportunity has been taken advantage of by some (whom the nature of the questions asked clearly shows to have been quite incapable of dealing with the design in question at all) to obtain *advice* upon the disposition of the plan, character of the elevations, and other points upon which each competitor should be left to exercise his discretion. The advantage to which the experience of capable architects entitles them is thus extended to all competitors alike, and ceases to be an advantage.

One competition now in process of being carried out furnishes a case in point. In answer to the promoter's invitation one hundred and thirty-seven questions were submitted for the decision of the assessor. Advice and information were solicited upon every conceivable problem presented by the design, and with the utmost courtesy and impartiality the assessor placed his experienced opinion at the disposal of all alike, in fact rendered it almost unnecessary for competitors to think for themselves at all.

We may, in passing, say that so well were the conditions drawn up in this case, that we ourselves did not find it necessary to ask a single question; and the sole point on which our plans were affected by the replies to queries involved a definite and distinct breach of the original conditions.

The net result of this convenient arrangement has in this instance been the waste of nearly two months out of the period allowed for completion, and the complete rearrangement of the plans of some who were quite content to adhere to the original conditions.

We hold the opinion very strongly that assessors should either not invite questions at all, or should confine themselves strictly to elucidating points upon which the wording of the conditions admits of more than one interpretation.

We should be glad to hear the opinions of others upon the subject.

We enclose our name, but, as interested parties, prefer for the present to remain INCOGNITO.

*** We quite agree with our correspondent in his general position. An assessor ought to decline to admit frivolous and unnecessary questions, or such as argue professional ignorance on the part of the questioners. Questions should, in short, be confined to the object of understanding fully the requirements of the promoters of the competition.—ED.

"THE DIRECT EMPLOYMENT OF LABOUR."

SIR,—In view of the immense increase in cost of all building operations during the last few years, it is not to be wondered at that people are casting about in their minds as to the best means of reducing it; nor that the possibility of doing work "without the intervention of a contractor," as the L.C.C. loves to phrase it, should be one of the more plausible advocated.

It is not surprising that "One from the Bench" should be found among these. The British workman dearly loves a "soft" job, and, as a rule, there is no softer billet than one under a County Council, in some Government establishment, or with some rich brewery or landed proprietor. As recent illustrations of this I can call to mind from my own observations the spectacle of five men working a steam-hammer, four of them with pipes in their mouths; five men with a ganger using strenuous efforts to haul an empty 10-gallon oil-drum out of a dock; twenty-seven men in a fitting shop, only two of whom were making any pretence at doing anything; a timber shed erected by a brewer the labour alone on which cost 3*s.* per cubic foot; a piece of boundary wall built by a gas company which cost for labour only 10*l.* per rod, &c.

I am, however, a little surprised to find Mr. Blashill seemingly advocating the same theory. One would have thought he would have had more insight into the practical aspect of the matter. Some time ago, you will remember, there was a great outcry against the "middleman," who was supposed to interpose between the manufacturer and the consumer, and pocket the whole of the profits. Seeing, however, that he fulfilled the not altogether useless purpose of taking goods from places where they were not wanted and placing them where they were, he has been permitted to survive, and I have no doubt the contractor will, as Mr. Blashill puts it, be in evidence for some little time to come, if only because he possesses the one thing absolutely essential to the successful carrying out of any enterprise—experience.

It seems very remarkable to me, who have been in the business since my school days, and still find constant occasion to deplore my lack of experience and foresight, how lightly this is esteemed by architects, journalists, county councillors, and others. They seem to argue thus: You have a building to put up; all that is necessary is to engage a foreman or clerk of works, give him carte-blanche as to plant, materials, and money, and the building will find itself erected. And so it will, but at what cost? I am convinced, and act upon the conviction in my own business, that there is no getting away from the fact that work of whatever description is most economically and efficiently performed by those whose lives and energies have been systematically devoted to the particular description of work required to be done, and that any departure from this rule is most unlikely to result in saving.

When the L.C.C. Works Department was started, the Radical journals informed their confiding readers that a saving of 25 per cent. was the least that would be effected. Their tone nowadays is rather apologetic than otherwise. As a matter of fact, I suppose any contractor who clears a net 5 per cent. on the balance of his good and bad jobs is well satisfied. I have seen it stated that the profits of the late Mr. Brassey averaged no more than 3½ per cent., and surely the services rendered by a contractor, the advantages derived from his experience, and discernment in the selection, organisation, and management of men; provision of ample and suitable plant; foresight; knowledge of prices and value of labour, are well worthy this moderate remuneration. The building owner or his architect, lacking this experience, are as little fitted to carry out a building operation of any size as an amateur yachtsman—however clever a navigator—to command the Channel Fleet.

Nor does it follow that one result of dispensing with the contractor will be more satisfactory work. I have noticed that architects are less stern in dealing with the building owner than with builders. I know of one building erected with bricks no builder would have been permitted to use. This, of course, was in opposition to the wishes of the architect, but shows that they—the architects—do not feel themselves so freehanded in dealing with the one as the other. Per contra, on the same job, the very best joiners' deals were being used as scaffolding.

No, Sir, the remedy is rather to be looked for in the direction indicated by the writer of the articles in the *Times*, which, I am glad to see, are causing some amount of stir. I fancy the object of your correspondents "Mondamin" and "Provincial" is rather to confuse the issue. No builder would complain if he got an "average" of 400 bricks per day, including labours. The complaint is that this number is not approached in common work, by which, as I take it, your correspondents know well enough, is meant work without face in walls 14 in. thick and upwards. My own experience is that when the job is situated in a district where the Union is non-existent practically twice the amount of work is actually done as in towns where the Union is powerful. WM. F. WALLIS.

Maidstone.

SIR,—Referring to the letter of Mr. Thos. Blashill appearing in your last issue on the above subject, there are a few points upon which I venture to think contractors as a body would like to be enlightened, *i.e.* :—

1. "The contractor may, if he likes, have his yard and workshops, his dead stock and live stock, his machinery and the clerical staff of a large manufacturing establishment; he probably will keep up this system more or less. But it is no more necessary than it is for a joiner to have the old-fashioned box of tools."

2. "There is the saving of the contractor's profit, of his heavy payments for interest."

3. "The owner with money in hand can buy as well as—indeed, I have been told, better than—the contractor who takes even the shortest credit."

4. "He may not unreasonably hope to come out of the business better than he would do if it had been done by contract."

Now, with regard to paragraph

1. I venture to suggest that without his machinery, workshops, &c., the poor contractor would very soon find his business on the decline, and it does not follow that because advertisements for "ready-made joinery, &c.," appear in great variety the various workmen would be content to "simply fix it on the building." I know of cases where a contractor has tried the experiment with disastrous results; the workmen and their leaders are not fond of "imported goods," as they are pleased to call them. Have there not been many cases of friction between contractors and employees over "worked York stone" being sent into London for the London mason to "fix only?"

Again, I maintain that at no time has there been greater necessity for an efficient (owing to the ever-increasing difficulties the contractor has to contend with) and large clerical staff in his office than the present.

2. I challenge this statement; it is the old story, but proofs are wanting. There may have been individual cases of saving, but, on the whole, facts point to the contrary being the case.

3. Is there not some misunderstanding here? Surely a merchant is unlikely to supply a "casual buyer" at lower prices than a "regular one."

4. My opinion is that were one told this by a friend and tried the experiment of "direct employment," the result of experience so gained would mean that "coolness might possibly exist between them ever after."

With the greater part of the latter two paragraphs in Mr. Blashill's letter a good many will no doubt agree; still it does occur to me, "Do not people enter into contracts to save money?" If such is not the case, why obtain so many tenders? Is not the main idea generally of so much competition to obtain the lowest possible figure?

GEORGE H. CHAPPELL.

BOOKS RECEIVED.

THE ROCK TOMBS OF SHEIK SAID (Archæological Survey of Egypt). By N. de G. Davies. (Kegan Paul & Co.)

THE ART OF BUILDING (Weale's Series). By Edward Dobson. Fifteenth edition. Revised by T. P. Allen. (Crosby Lockwood & Son.)

WOHNHÄUSER. Von K. Weissbach. (A. Kröner, Stuttgart.)

THE LAW RELATING TO FACTORIES AND WORKSHOPS. By William Bowstead. (Sweet & Maxwell.)

MANCHESTER FIRE STATION COMPETITION.—In the plates of the First Premiated design for the above, published in our last issue, the architects' names should have been given as "Messrs. Woodhouse & Willoughby and John Langham," instead of "Messrs. Woodhouse & Willoughby" only.

Illustrations.

DESIGN FOR A MEMORIAL TO BRITISH HEROES.

THIS design was the outcome of a suggestion made a few months ago by a daily paper that the nation should subscribe and erect a memorial to our soldiers lost in the war. A Classic design was submitted by me to the Editor, but, owing doubtless to the death of the late Queen, and other matters probably, the scheme is still in abeyance.

This, my second design, consists of a very lofty tower and spire, with a great hall on the ground floor, 100 ft. square, surrounded by smaller chapels, vestibules and ante-chambers, &c. The central tower stands upon the walls of the great hall, and contains a continuous spiral of steps, arranged in flights of six or seven risers, low and broad, with a landing 15 ft. square to each flight. On (and in) the walls all round would be built the monuments and tablets to the memory of our great and worthy dead—scientific, artistic, literary, musical, and naval and military heroes.

The stairway would be supported on each side by an arcade of marble columns and arches, and would be clear of the walls about 3 ft., which space would be arched over at convenient corners for constructional purposes. There would be left in the centre a space of about 50 ft. square, tapering up with the batter of the walls. In a large chamber at the top of the tower, about 340 ft. from the ground, would hang a peal of bells, with one large one for tolling. Outside galleries and corridors would be arranged at the base of the spire, among the pinnacles.

In the chapels below, of which there are eight, burial and memorial services would be held when required. A large organ would be built in the central hall, where the public would be admitted. They could also ascend into the spire, by lifts and staircases, to the topmost stone, which is 550 ft. from the ground. This stone would be hollowed to sufficient capacity to hold four or five persons, with windows or openings all round, from which a magnificent view could be obtained.

The site is, of course, a matter for consideration. I have had in my mind the square enclosed grass plots on the north side of Westminster Abbey; but as good or better might be found in one of the parks. Of the cost it is very difficult, if not impossible, to speak. Many smaller schemes might be added to the interior, which would increase the amount. For instance, a record-room could be arranged beneath the hall. Sacred concerts might be held in the hall, with a little modification of the plan; and rooms for public use, museums, libraries, &c., might be added, if thought fit. Fountains for display and drinking would be arranged outside, and small trees, shrubs, and seats laid out where the architectural features of the building would allow.

E. B. LAMB.

MANCHESTER FIRE STATION COMPETITION.

SECOND PREMIATED DESIGN.

WE give this week the elevations and the two principal plans of the design by Mr. George Watson, of Edinburgh, which received the second premium in the competition for the new Fire Station at Manchester.

We commented at some length on the design in the review of the competition in our issue of November 30, to which we may refer our readers.

SKETCHES FOR HOUSE INTERIORS.

THESE sketches for interiors are by Messrs. Parker and Unwin, whose book on "The Art of Building a House" was recently noticed in our columns.

The sketches were made partly to try the effect of a room before finally completing the plan of the house; and the architects suggest that such a method may often be very usefully employed in order to realise better the effect which the plan of a room will have. In some cases their plans have been modified as the result of such sketches. This seems a good suggestion, worth consideration in working out the design of a house.

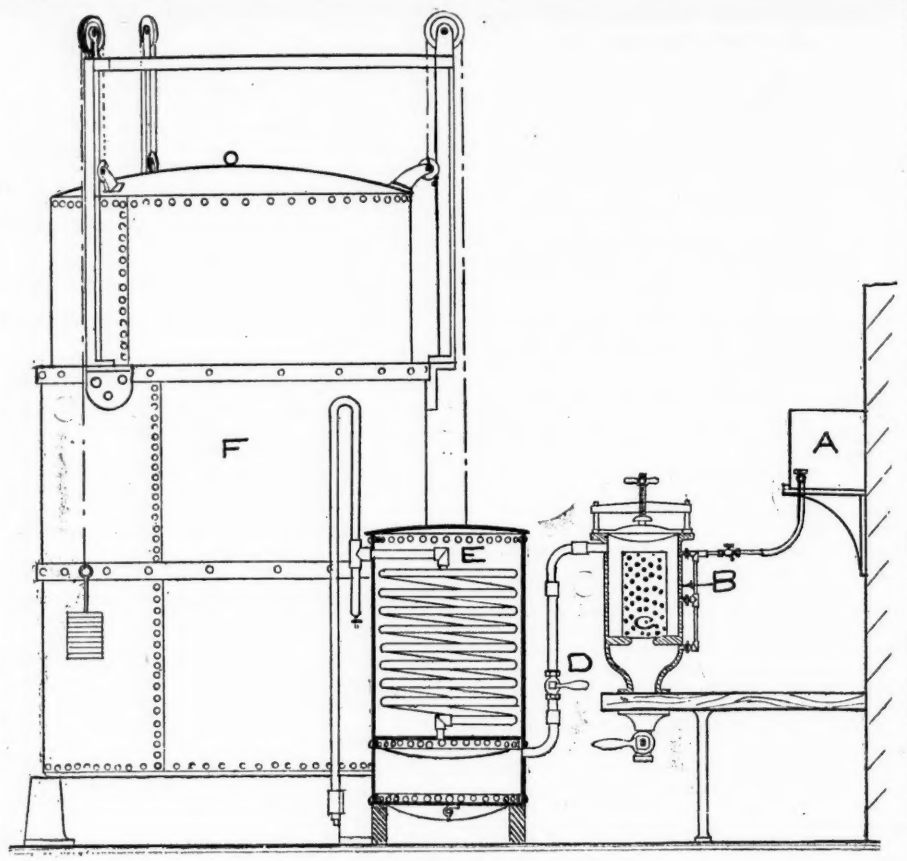

Fig. 56.—Non-Automatic Water-to-Carbide Generator.

COMPETITIONS.

CAMBERWELL PUBLIC BATHS.—These baths are to be erected in Old Kent-road, and will comprise two swimming-baths, 130 warm baths, a Turkish bath, and a public wash-house with fifty compartments. The competition was open to the profession generally, Mr. A. Saxon Snell being appointed as assessor. Fifty-two designs were received early in October. The assessor's award (which has been adopted by the Council) is as follows, viz.:—First premium, No. 18, Mr. Harding Payne; second premium, No. 7, Messrs. S. B. Russell and C. E. Mallows; third premium, No. 32, Mr. Dighton Pearson. Mr. Harding Payne has been appointed architect to the building, which is estimated to cost 50,000*l.* The whole of the designs will be on exhibition at the Camberwell Public Baths, Church-street, Camberwell Green, S.E., up to and including Wednesday next.

The Student's Column.

GAS AND GAS-FITTINGS.

23.—SOME ACETYLENE GENERATORS.

ACETYLENE generators may be divided into two classes:—

1. Non-automatic generators;
2. Automatic generators.

In the first class a gas-holder is provided of sufficient capacity to contain all the gas which can be evolved from the largest charge of carbide which can be placed in the generator; whilst in the second class the rate of generation is dependent upon the rate of consumption, the gas-holder is not usually of sufficient capacity to contain all the gas generated from a charge of carbide, and the supply of water to the carbide, or carbide to water, is automatically stopped when the gas is generated at a more rapid rate than that at which it is being consumed.

During the last six years several hundred forms of apparatus for generating acetylene by the action of water upon carbide, or carbide upon water, have been patented. Of these only a small proportion are now on the market, but the number of survivors is nevertheless too large to admit of a description of each in these columns. A description of four of the different forms of generators in general use at the present time must suffice to illustrate the general principles of generator construction. Of these the first two are non-automatic, and the last two are automatic generators. In some forms of generator the carbide has to be used in a granulated condition, but as granulated carbide seldom yields so large a volume of acetylene as lump carbide, owing to the loss of gas which occurs when the carbide is crushed and stored, these generators are not, as a rule, economical.

The advantages of non-automatic generators over those of the automatic description are greater simplicity and safety, but they have the disadvantages of being more costly owing to the necessity of providing a gasholder of comparatively large capacity, and of occupying a larger area of ground. When cost is not a primary consideration, non-automatic generators are, in the opinion of the writer, preferable to those of automatic form; but it is an indisputable fact that many automatic generators of a simple description are in operation in many parts of the country and are giving complete satisfaction to their owners.

When selecting a generator, attention should be given to the following points:—

i. Excessive heating should not occur during the decomposition of the carbide. The lime sludge left after decomposition should not contain yellow compounds, tarry matter, or soot.

ii. The air space in the generating chamber should be as small as possible, in order to prevent the formation of an explosive mixture of acetylene and air when gas is first generated after recharging.

iii. No undecomposed carbide should be found in the generator when it is cleaned out.

iv. All parts of the apparatus should be well constructed in strong and durable material. Generators constructed with old salmon tins by amateur mechanics are liable to lead to disaster. Brass pipes or apparatus should be avoided, but stopcocks of brass may be used.

v. Not less than 4½ cubic feet of gas should be obtained from every pound of good commercial carbide placed in the generator.

vi. The gas pressure within the generator should at no time exceed 12 in. of water.

Non-Automatic Generators.—The generating apparatus known as "The Ideal" (fig. 56) may be regarded as a type of the simplest and safest class of generators. It is non-automatic, since the admission of water to the carbide is regulated by the manual operation of a cock, and the generator is connected to a gasholder of sufficient capacity to contain all the gas which can be generated from a maximum charge of carbide.

Water from the tank (A) is admitted to the generator (B), in which is situated a perforated basket (C) partially filled with carbide. The basket is introduced into or removed from the

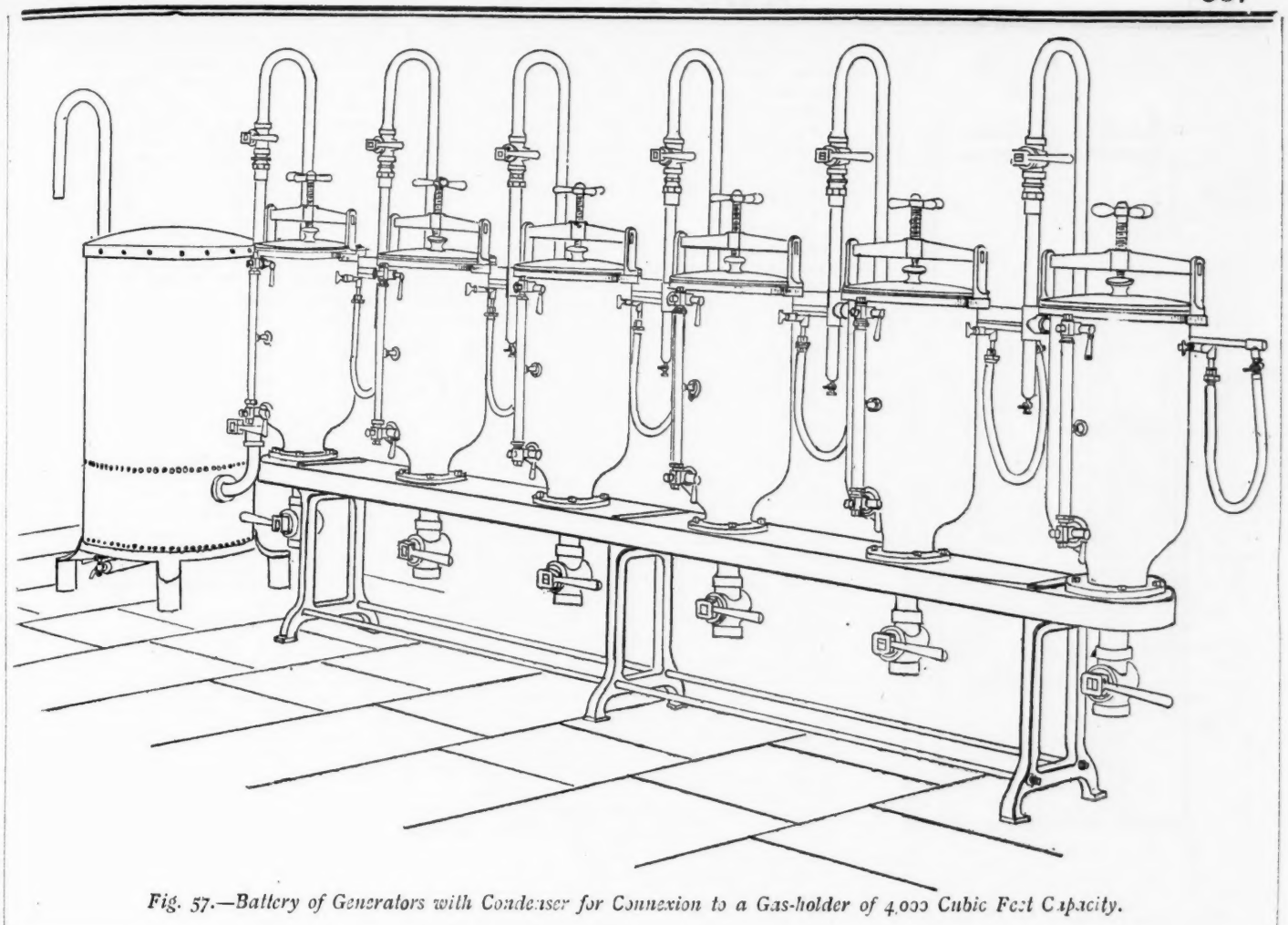

Fig. 57.—Battery of Generators with Condenser for Connexion to a Gas-holder of 4,000 Cubic Feet Capacity.

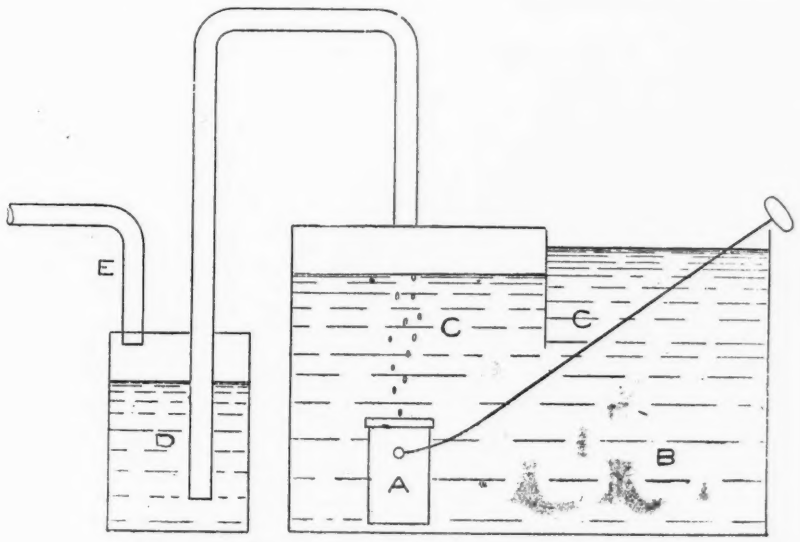

Fig. 58.—Non-Automatic Carbide-to-Water Generator.

generator by taking off the cover, which is held in position by a screw and cross-piece as shown in the illustration. The water slowly rises within the generator, and soon comes in contact with the lower portion of the carbide. Acetylene gas is immediately generated, and passes through a condensing coil (E), from which condensed water is from time to time drawn off. From the condenser the gas passes into the gas-holder (F), or may be passed first through a purifier and then into the gas-holder. When the carbide basket is completely flooded with water, and gas ceases to be evolved, the water-supply cock and the cock (D) between the condenser and the generator are closed, the sludge in the generator is removed by opening the lever cock at the base, the carbide basket is removed and its contents discharged, and the apparatus is then ready to be re-charged.

The water-tank is only slightly raised above the generator, and the gas outlet pipe from the generator is carried up higher than the top of the tank, so that it is impossible for the water to flow over into the condenser. The pipe which admits water into the generator is of very small bore, so that water cannot flow into the generator very rapidly, and in the event of any obstruction occurring in the outlet pipe from the generator the pressure of the gas within the generator drives back the water from the carbide before the pressure has become considerable.

The illustration (fig. 56) shows a plant intended to supply sixteen acetylene flames, each consuming ½ cubic foot per hour, for a period of five hours without refilling the holder.

When the quantity of acetylene to be manufactured is large, a number of these small generators are connected in the form of a battery to one large gasholder (fig. 57).

This is preferable to making one large generator to contain all the carbide to be decomposed, because in decomposing a large bulk of carbide in this manner the heat accumulated within the generator during the period of decomposition is apt to be excessive. The generators are sometimes provided with water-jackets, but this is quite unnecessary, since no harm is done if the temperature of the generator does not rise above that which the hand can bear without discomfort, and there is no difficulty in decomposing the whole of the carbide without exceeding this temperature if the flow of water to the carbide is stopped when necessary. The battery of generators shown in fig. 57 is connected to a suitable condenser, and is adapted to fill a holder of 4,000 cubic feet capacity.

Another form of non-automatic generator is that manufactured by the British Pure Acetylene Gas Syndicate (fig. 58). This apparatus also has the merit of extreme simplicity. The carbide is placed in an iron pot (A) having a lid with a central perforation. This is plunged through a tank (B), which is open to the air, into a water chamber (C) which is closed (by C1) from the open air. The water slowly enters the carbide pot through the perforation, and the gas generated bubbles up through the water, and passes through a washer (D), and from thence passes through a pipe (E) to a gas-holder. When employing an apparatus of this type, a certain proportion of acetylene is lost owing to its solubility in water, and the water soon emits a disagreeable odour owing to the solubility of sulphuretted hydrogen, ammonia, and other impurities in the water. The foulness of the water is not, however, a matter of importance when the generator is situated at some distance from the dwelling supplied with acetylene, and the fact that the water removes a considerable proportion of the impurities from the gas is some compensation for the loss of acetylene which occurs.

Automatic Generators.—In Strode's "Simplicity" generator (fig. 59), which is manufactured for installations not exceeding twenty lights, water rises to carbide, the supply of water to the carbide being automatically controlled by the rise and fall of the bell of the gasholder. In the illustration, A is the gas-holder tank, B is a tapered gas bell, C the lip for filling the tank with water, D a cylinder for holding the carbide container, E the carbide container attached to D by a bayonet joint F are trays in which the carbide is placed, G is the gas outlet pipe, H the lid for introducing or removing the carbide container, and J is a trap for condensed water.

Each tray is half filled with carbide and placed in the generator. When the generator cover has been closed, the gasholder tank is slowly filled with water until sufficient gas has been generated to cause the gas bell to rise about 6 in. More water is then added until the water level mark is reached. The apparatus will then work without attention

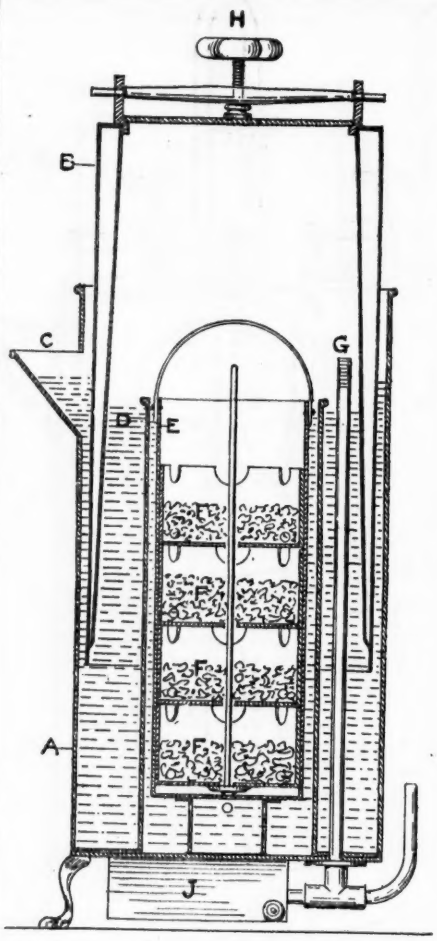

Fig. 59.—Automatic Water-to-Carbide Generator.

in consequence lowered, and water ceases to flow into the generating chamber; while if the consumption is more rapid than the generation the bell descends, and, owing to its tapered form causes the displacement of a comparatively large volume of water which flows over into the generating chamber and increases the rate of decomposition of the carbide.

Strode's "Perfect" (fig. 60) generator is another form of automatic generator, but in this case the carbide is dropped into a large volume of water, instead of water being allowed to rise around the carbide. The carbide container (C) is situated above a revolving cone having a spiral chamber into which the carbide falls by its own gravity. The cone is actuated by a water-wheel (D) which discharges carbide into a wire-gauze chamber or strainer (F), which is immersed in the water contained in the generator-tank.

When water is discharged into one of the pockets of the water-wheel until the pocket is filled, the wheel turns a quarter revolution. The discharge of water into the pocket is regulated by the rise and fall of a tapered gasholder bell (M), the walls of which displace the water in the gasholder-tank when the bell descends, and causes it to overflow and be discharged upon the wheel. The water employed to actuate the wheel falls subsequently into the generator-tank (I), which is provided with a suitable overflow.

In order to maintain the necessary quantity of water in the gasholder tank, a water regulating tank fitted with double ball-valves and an overflow, and connected with the water main, is provided. A box-shaped cover (B) slips over the carbide container and water-wheel, and dips some distance into the water, thus forming a gas-tight seal. The container can be charged with carbide by removing the cap (A), water is conveyed from the gasholder tank and discharged over the wheel through the pipe (G), the gas produced passes from the generator to the gasholder through the pipe H.

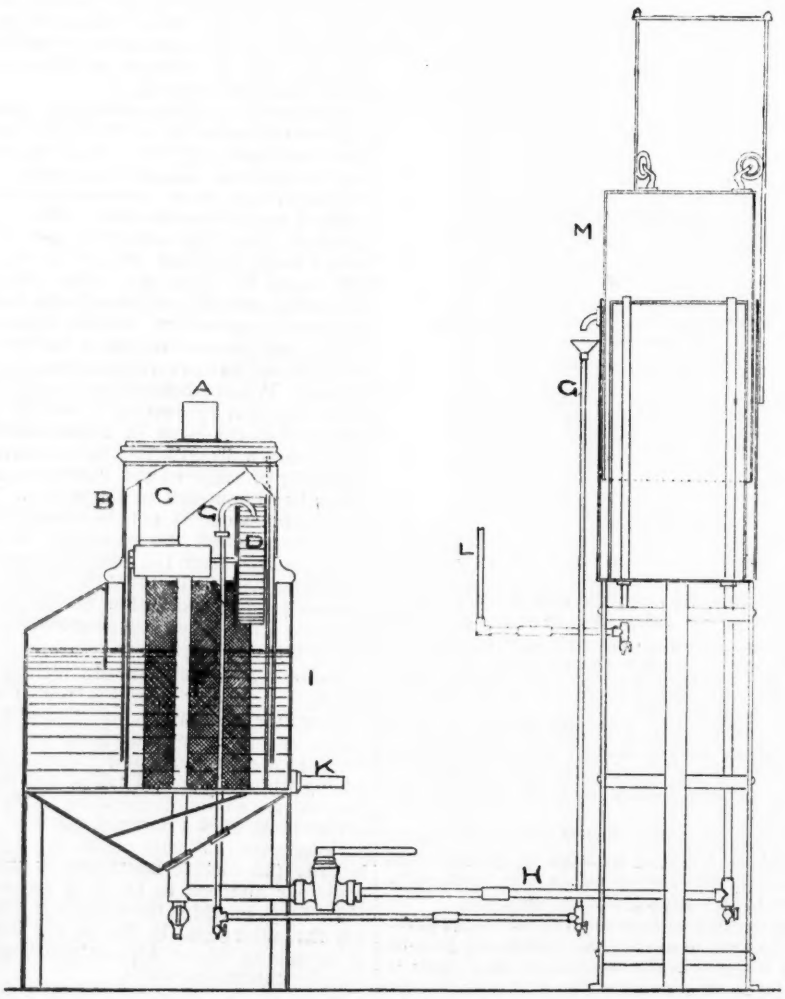

Fig. 60.—Automatic Carbide-to-Water Generator.

until the whole of the carbide has been decomposed, because when the gas is generated at a faster rate than it is consumed the bell rises and the water level in the tank is while K is the pipe employed for filling the generator tank with water, and L the pipe which conducts the acetylene from the gasholder to the burners.

Location of Generators.—Acetylene generators should never be fitted in the basement or any other part of a dwelling, for the operation of cleaning and recharging is always accompanied by the evolution of a disagreeable odour, which is so penetrating that it soon becomes disseminated through the whole building. The generator should be situated in a detached building, and should never be exposed to the action of frost, as the freezing of the water in the gasholder tank or supply cistern would put the apparatus out of action. The carbide may be stored in the generator house on platforms or shelves raised above the floor level, so that if a bucket of water is accidentally upset the water cannot come in contact with the vessels in which the carbide is stored. The generator should be charged in daylight, and no flames should be allowed in the generator house.

The waste sludge should never be passed directly into a sewer, but should be discharged into an open intercepting pit, so that the evolution of gas from any portion of the carbide which may have escaped decomposition in the generator cannot result in the formation of an explosive mixture in a confined space.

OBITUARY.

MR. INNOCENT.—We regret to announce the death on November 30, at his residence, No. 18, Wellesley-road, of Mr. Charles John Innocent, of No. 22, High-street, Sheffield, in his sixty-third year. Mr. Innocent became an Associate of the Royal Institute of British Architects in 1865; he was elected Fellow in 1889, and for some period was member of the Council. He was a Fellow of the Surveyors' Institution, and had served as President of the Sheffield Society of Architects and Surveyors. He formerly practised in co-partnership with Mr. Thomas Brown, who had been his brother-pupil in the offices of Messrs. Hatfield, Son, & Garland, successors to the late firm of Weightman, Hatfield, & Goldie—both of Sheffield. Together with his former partner, Mr. Innocent found and made his opportunity in the passing of W. E. Forster's Elementary Education Act of 1870; they were the architects of a large number of public elementary schools in Sheffield and around, and in 1874 they published a volume, "Illustrations of Public Elementary Schools," containing drawings of schools designed by them. Amongst Mr. Innocent's architectural works we may instance the following:—Sunday schools, with other buildings, at Carbrook, Sheffield (1887); superintendent's house, offices, probationary home, cottage homes, and children's hospital upon the Goddard Hall estate, at Crabtree, for the Union Guardians, Sheffield (1893-4); alterations and enlargement of the Gleadless-road Schools, Heeley, with a new girls' department and separate cookery and manual instruction departments—opened on February 6, 1899—for the Sheffield School Board; additions and improvements, with two large assembly-rooms for the young men's and young women's institutes, classroom, infants' schoolroom with gallery, &c., at St. John-street Methodist Church, Sheffield (1897); a Methodist church at the corner of Fulwood-road and Nether Green-road, Ranmoor, begun in October of last year; and a Methodist church and schools at Nether Green, for the Sheffield New Connexion. In August, 1894, Mr. Innocent was awarded the second premium for his plans and designs, out of fourteen sets submitted, for the Tinsley Park-road Board Schools. Only a few days before his death he had taken his son, Mr. C. Francis Innocent, into partnership. We may add that Mr. Innocent had been from an early period an enthusiastic member of the local auxiliary forces, and more than forty years ago, with some of his fellow-students at the Sheffield School of Art, took an active share in the establishment of the Engineer Volunteer Corps.

GENERAL BUILDING NEWS.

EMMANUEL CHURCH, SPARKBROOK, BIRMINGHAM.—The growth of population in Christ Church parish, Sparkbrook, has necessitated the erection of a chapel of ease at the corner of Walford and Golden Hillock roads, on a site presented by the trustees of the Birmingham Churches Fund, and on the 23rd ult. the edifice, which is named Emmanuel Church, was consecrated. The church, which is in the Decorated style, has been built by Messrs. Moffatt & Son, of Camp Hill, in accordance with plans prepared by Mr. W. Hawley Lloyd, architect, of Bennett's Hill, but the whole of the original scheme has not yet been carried out. The site is of sufficient extent to allow of the erection at a future time of other parochial buildings. The church is a brick erection, with stone dressings, and has a bell turret for the accommodation of three bells, and is surrounded by a minaret of stone. When completed the church will accommodate over 700 worshippers, but the present building, which consists of chancel, organ-chamber, vestry, chancel aisle, and two bays, the latter with traceried win-

dows, will seat about 430 persons. The present cost is about 5,000*l.* At the east end there is a traceried window.

WESLEYAN CHAPEL AND SCHOOLS, WORCESTER.—A new Wesleyan chapel is being erected in Pump-street, Worcester. At the rear, on property acquired for the purpose, schools will be placed. The school buildings will include an assembly-room and five classrooms, vestries, and a lady's parlour. Beyond will be a yard for the boys and girls. The total outlay is estimated at 8,000*l.* The architect is Mr. Jameson Green, of Liverpool, and the contractors, Messrs. Hopkins & Son, of Birmingham.

REPAIRS, &C., ST. JOHN'S CHURCH, WOODBRIDGE.—St. John's Church, at Woodbridge, was reopened recently upon the completion of a scheme of internal improvement. With the exception of the gallery, the whole interior has been reseated. The new benches are in teak. The floor is laid with pitch-pine blocks, resting on cement concrete. The floor of the porch is tiled. Two cast-iron columns which supported the front of the organ have been removed, and an oak arching substituted, the heads of the bays being filled in with carved and cusped tracery. The stone pulpit has been lowered about 18 in., while the former small stone shafts of red stone are replaced with others of polished Connemara green marble. New leaded lights have been inserted in all the windows; the gas is now laid on—the church having been hitherto lighted by oil lamps—and the burners are on wrought-iron and polished brass standards and brackets; and an entrance to the vestry through the north end of the east wall, instead of from the apse, as before. The walls are distempered, and the apse is painted and decorated. The central window above the Holy Table contains the figure of a saint in stained glass. The architects were Messrs. Brown & Burgess, of Ipswich. The work at the church was executed by the following firms:—The benches and all joiners' work by Mr. W. T. Smith, of Woodbridge; the concrete, tile floor, and bricklayers' work by Mr. Barrell, of Woodbridge; stonework and alterations to pulpit, Mr. Watts, of Colchester; gas and decorative work, Messrs. Alfred Stearn & Son, of Ipswich; new windows in nave, Mr. H. J. Salisbury, of Brompton-road, London; gas standards, Messrs. Jones & Willis, London; carving on bench-ends, &c, by Mr. P. Groom, of Ipswich.

CONGREGATIONAL CHURCH, MATLOCK.—At Farley, a suburb of Matlock, on the 30th ult., the foundation-stone was laid of a Congregational church. The contract has been let to Mr. T. Needham, and there is to be provision made, not only for a church, but also for a schoolroom in the basement. Mr. A. E. Falding is the architect.

NEW CENTRAL POLICE-STATION, HULL.—At the Hull Town Hall, on the 3rd inst., an inquiry was held by Mr. E. A. Sandford Fawcett, A.M.Inst.C.E. (Local Government Board Inspector), into the application by the Hull Corporation to borrow 30,668*l.* for the provision of a new central police-station, and 5,439*l.* for the erection of stables, &c., at the Scarborough-street depot. There was no opposition to the application. Mr. Hirst, the City Architect, gave evidence to the effect that the plans had been approved by the Home Office. He described the building, and said the walls would be of brick, with stone dressings. The drainage would go into the main sewer in the new street. The Inspector then dealt with the application for the Scarborough-street stables. The Town Clerk stated that what were required were stables, waggon shed, and foreman's residence. The site on which the buildings were to be erected belonged to the Corporation, having been purchased for a refuse-destructor. The Corporation had taken up the collection of dry dust, and it became necessary for them to purchase horses and carts, and, fortunately, they had sufficient area for the stables. Originally 10,492 square yards of land were bought for the destructor. Mr. Hirst said that there would be accommodation for forty-seven horses.

Y.M.C.A. BUILDINGS, LEICESTER.—The formal opening of the new buildings of the Leicester Young Men's Christian Association took place on the 5th inst. The buildings, which stand on a site on the London-road, have been erected at a cost of about 35,000*l.* from the plans of Messrs. Draper, Walters, & Co., and Mr. A. E. Sawday. The main entrance is from the London-road. The entrance hall gives access to the principal staircase and the cycle-rooms through the area. On the first floor are newspaper-room, library, recreation-room, and refreshment-room, together with committee-room, President's parlour, and offices for the secretary and clerks. These are approached from the main corridor or from the lounge hall at the head of the staircase. Lavatory and cloakroom accommodation are also provided on this floor. The clubrooms, which face the London-road, are arranged *en suite*, so that they may be used for receptions and large gatherings of various kinds. On the second floor there is a large room to hold about 200, which can be used for lectures, classes, or for other meetings. There is a retiring-room in connexion with the above, having a separate approach from the hall. Two classrooms, capable of seating seventy and fifty respectively, are placed so that they may be used in connexion with the large meeting-room. The remainder of this floor is occupied by the residential parlour and five sitting or bedrooms for the use of members. The third floor contains seventeen bedrooms for residential members, in connexion with which bath and lavatory accommodation is provided. The administrative offices are placed on the second floor in the side portion facing East-street. These consist of a large kitchen, connected with the refreshment-room by service chairs and up and down dinner-lift, scullery, larder, &c., with parlours and bedrooms for the caretaker and servants. The Association hall, capable of seating about 750 people, is approached from the London-road and East-street, and made to be used either in connexion with the Y.M.C.A. or let for independent meetings. Two retiring and cloak rooms are arranged in connexion with the hall, and a small kitchen is arranged for the service of teas and light refreshments. In the basement there is a gymnasium 60 ft. by 45 ft., with dressing-rooms, &c., fitted up with shower and plunge baths. The principal rooms are heated by radiators supplied with hot water, but in addition to these open fireplaces are provided.

TOWN HALL, ILFORD.—This building, which is situate in the High-road, with a return frontage to Oakfield-road, has just been opened. At the opening ceremony Mr. B. Woollard, the architect, said the principle of the plan was the arrangement of the building into two sections, the business section and the Town Hall section, so that although one building, one section, when in use, would not clash with the other, when in use at the same time. For that reason two main entrances had been provided, one giving access to the Council offices, and the other to the Town Hall. The site had a frontage to the High-road of 115 ft. and to the Oakfield-road of 102 ft. The building, when complete, will have two symmetrical fronts, the Oakfield-road front being at present incomplete. The elevations are of Bath stone, with copper domes. The height of the parapet is 43 ft., and at the highest point the building is 86 ft. In the office portion, on the ground floor rooms are provided for rate collectors, surveyor, accountant, sanitary inspector, medical officer, road foreman and clerk of the works, who work in connexion with the surveyor and sanitary inspector. There are also two fireproof strong-rooms. On the floor above, approached by a stone staircase, are arranged the Council chamber, a room 40 ft. by 30 ft., two committee-rooms, a chairman's parlour, an ante-room, and a suite of offices for the Clerk of the Council. These rooms, and those on the ground floor, are all connected by means of speaking tubes. There is a secondary staircase at the rear of the Council chamber, for the use of the public attending the Council meetings, approached from the Oakfield-road, and communicating with the ground floor. There is a suite of rooms for the caretaker on the top floor, and a basement with heating chambers, &c., under a portion of the back part of the building. In the Town Hall portion there is a hall some 76 ft. by 57 ft., with a platform 33 ft. by 18 ft.; two retiring rooms on the same level, and three large rooms under. There is also a gallery 35 ft. by 22 ft. The main entrance is under this gallery, and has a cloakroom on either side. The seating accommodation is estimated at about 1,000. The platform has been raised some 5 ft. Four pairs of double doors at each end and an extra exit in the middle of the room have been provided, and all doors have special panic bolts. Special automatic fire alarms have been fitted up all over the building. The builders are Messrs. G. Sharpe, and the clerk of the works Mr. J. W. Thurlow.

FOREIGN.

FRANCE.—The Prefect of Police at Paris, M. Lépine, recently organised a competition among the makers of toys for Christmas and New Year's presents, with the view of encouraging them to endeavour to put more artistic style into such articles than is usually found. There has been an exhibition of the work of the competitors in the large hall of the Tribunal of Commerce, and many of the things shown are both ingenious and pretty. Some very eminent artists have even been induced to make designs; there is a monkey modelled by M. Frémiet; French and Russian soldiers by M. Detaille; a "Marchande de jouets" by M. Gérôme; figures of skaters by M. Coutan; and a "Japonaise" by M. Felix Régamy.——The Municipal Council of Paris are continuing the work on the underground railway, and a scheme for a new line is before Parliament. This will detach itself from the Vincennes line at the Palais Royal, and will follow the line of Avenue de l'Opéra, and of Rue Halévy, Rue Lafayette, Rue Chabrol, and Rue Strasbourg, and will pass under the Buttes Chaumont and terminate at the Place du Danube in the XIXth Arrondissement. The first cost will be nearly 19 million francs.——The Rue de Rennes, which now ends at the Place St. Germain de Près, is to be prolonged to the Seine, at a cost of 22 million francs. This will necessitate also the building of a new bridge over the Seine.——M. Moyaux has been elected President of the Société Centrale des Architectes Français for 1901-2.——The Prefect of the Seine has made it an order to the mayors of districts in the Department of the Seine that they are not to allow any monument of a historic or artistic character to be destroyed before the "Vieux Paris" Committee has been consulted in regard to it.——M. Carrière is just completing four large decorative pictures intended for the Mairie of the XIIth Arrondissement, the subjects being "Marriage," "Birth," "The Family," and "The Return from Labour."——The Société Moderne des Beaux-Arts has opened, at the Georges Petit gallery, an interesting exhibition including works by M. Victor Prouvé, by the Flemish painter M. Villoert, and by MM. Milcendeau and Rouault, two remarkably clever pupils of Gustave Moreau; also some sea pieces by M. Détroy and views of Paris by M. Houbron.——At Aubervilliers, on the 22nd, is to be opened a large new Salle des Fêtes, built from the designs of MM. Joanny Bernard and Robert.——The jury in the competition opened by the Municipality of Ivry for new school buildings, has awarded the first premium to M. Despeyroux, the second to M Emile Robert, and the third to MM. Marchi and Letrosne.——The Municipality of Royau is about to open a competition for a Casino and a Salle des Fêtes on the beach at Pontillac.——The annual fine art exhibition at Angers has just been opened.——The Municipality of Lyons intends to establish an underground railway system in that city.—M. Morvan, architect, St. Brieue, has been commissioned to build a new Hôtel de Ville at Loudéac (Côtes du Nord).—A competition is to be opened for the rebuilding of the museum at Nîmes.——Important restoration works are to be commenced at the old twelfth-century château of Laval.——A well-known amateur, the late M. Lutz, has left to the Louvre a curious picture by Boilly representing a gathering of artists at the studio of Isabey.

INDIA.—Plans and estimates have been prepared by the Military Works Department for a water-supply scheme for Neemuch.——New barracks and hospitals are about to be erected at Quetta, the Secretary of State having sanctioned the expenditure necessary.——The tenders submitted for building the new Municipal offices, Calcutta, vary so widely that, in order to institute a fair comparison between them, it has been found desirable to adopt a schedule of quantities, and apply the working rates in the case of each tender to ascertain the cost.——The "paying patients'" building of the Presidency General Hospital, Calcutta, is intended to be commenced during the present season.——The Southern India Railway Company propose to erect a large station in the Hindu style of architecture at Egmore terminus.

MISCELLANEOUS.

NO. 16, MAIDA VALE, W.—Mr. Alfred Gilbert, R.A. is about to dispose of his leasehold interest in the house, No. 16, Maida-vale, with the attached studio and workshops, which he designed and fitted for his own occupation. The property for sale includes the adjoining house, and covers a total area of nearly one acre, with a frontage to the main road.

THE STRAND IMPROVEMENT.—On the 6th inst., at the Guildhall, Westminster, Mr. John Troutbeck, sitting as High Bailiff, and a special jury had before them the case of "F. and F. J. Hazeldine (trustees of Little, deceased) *v.* the London County Council," it being a claim for compensation for the compulsory acquisition of the freehold premises No. 7, Windsor-court, Strand, required for the purpose of the new Strand to Holborn avenue. Mr. Edward Boyle, K.C., and Mr. W. C. Ryde were counsel for the claimants; and Mr. Freeman, K.C., represented the London County Council. Mr. Boyle said that the house, which had been let out in tenements, had a frontage to Windsor-court of 28 ft., and the property had been let for 65*l.* per annum. By expending about 100*l.*, however, his client could have increased its value as workshops to 100*l.* a year, and, inasmuch as the court was private property, he contended that cellars could have been constructed to produce at least 20*l.* per annum. His expert witnesses had capitalised those two sums at twenty years' purchase, which, with the 10 per cent. allowed for compulsory sale and after making the usual deductions, would yield 2,530*l.*, which was the amount he asked the jury to award. Mr. Douglas Young, F.S.I., and Mr. W. A. Ball, of Pall Mall East, gave evidence in support of Mr. Boyle's statement. Mr. J. F. Field, ex-President of the Auctioneers' Institution, gave evidence to a similar effect. Mr. Freeman submitted that the claim with regard to the cellar was a preposterous one, and that a little over 800*l.* would amply compensate the claimants. Mr. James Green, of Chancery-lane, gave evidence in support of these figures. The jury awarded the claimants 1,320*l.*, including everything.

GLASGOW ARCHITECTURAL CRAFTSMEN'S SOCIETY.—On the 6th inst. a paper was read by Mr. C. Ernest Monro, Vice-President, entitled "Hotel Planning and Construction." The question of site, aspect and prospect was discussed, and following this the position on plan and the general treating of the various public rooms, was illustrated. Among these the coffee-room was important, and should possibly have bay windows, ceiling of good height, say 14 ft., the floor of parquetry, and musicians' gallery provided if desired. The lounge should be situated conveniently to the coffee-room, and designed in a sumptuous if not luxuriant manner. The drawing-room also should be easy of access from the coffee-room and have a good outlook. The lecturer recommended the use of double sashes

to these rooms, as also to the reading and writing rooms, to ensure the exclusion of outside sounds. The matter of prospect was also to be considered regarding the bedrooms, as good outlook is desirable to these. The various other rooms, including kitchen, servery, and offices, with the sanitary treatment necessary, were each in turn treated of, and the lecture was illustrated by means of plans of several of these buildings erected in Scotland.

NORTHAMPTON CHURCH EXTENSION SOCIETY.—The Restoration Committee of the Church Extension Society for the Archdeaconries of Northampton and Oldham met at the Society's rooms in Sheep-street, Northampton, on Monday morning, the Rev. A. W. Pulteney presiding, and an application was received asking for assistance in the restoration of Chipping Warden Church, and it was decided to make a grant of 25*l.* for this purpose.

APPOINTMENT OF SANITARY OFFICER. — The Local Government Board has sanctioned the appointment of Mr. W. Tedham as a sanitary inspector in the Metropolitan Borough of Woolwich.

RECORD BUILDING WORK.—All records in building have just been broken in New York. The entire steel framework of a fifteen-story office building has just been erected at 68, William-street. The work was accomplished in twenty-five days. On November 9 the old building occupying the site was removed and the ground cleared. A huge steel skeleton was then erected, and is now ready for the stone and brick work. The building will be fully completed in six weeks from Dec. 6, and the owners then expect to have all the offices filled with tenants.—*Daily Mail*.

NEW REREDOS, WOODFORD BRIDGE.—At St. Paul's Church, Woodford Bridge, on Saturday, November 30, the Bishop of St. Alban's dedicated the reredos which has been erected by public subscription as a memorial to the Rev. C. B. Waller, the late vicar. The reredos is of alabaster, and has six *opus sectile* panels, in which are figures of St. Matthew, St. Mark, St. Luke, St. John, St. Peter, and St. Paul. The reredos, and also a credence table which has been erected, were executed by Messrs. Butcher & Axtell. Messrs. J. Powell & Sons, of Whitefriars, were responsible for the *opus sectile* panels. The whole of the work was carried out under the supervision of the architects of the church, Messrs. William G. Bartlett & Son, of London.

CAPITAL AND LABOUR.

MASONS' STRIKE AT PAISLEY.—After extending over five months the strike of Paisley operative masons has come to an end. It was on July 1 that the strike commenced. The masters had proposed to fix the wages at 9d. per hour, being the same rate as Glasgow. This the Paisley men refused, insisting on a continuance of 9½d., and they then struck work. The men have now accepted the masters' terms.

LEGAL.

BUILDING BY-LAWS, BLACKPOOL.

AT Blackpool on the 1st inst. William Johnson was summoned for an offence against the building by-laws. The case had been adjourned for the Corporation to prove that the defendant was the owner of the premises, which, it was alleged, he had purchased from a builder named Hardman. The premises extended over the building line.

Mr. Callis, who represented the defendant, admitted he was the owner of the property, but as the offence was committed before he purchased, he could not be held liable. If it were so, nobody would dare buy property in Blackpool for fear of the Corporation coming down upon them for an offence committed by the previous owner. The man who had committed the offence was Hardman, who was now in South Africa, and had the Corporation been able to get at him they would have done so.

Mr. Stevens, the deputy Town Clerk, replied that if what Mr. Callis said was right the whole thing would be a farce, and it would be possible for two men to act in collusion and defeat the aims of the Corporation.

After a lengthy retirement the Bench decided that the offence was committed by Hardman, and the defendant not being liable, the case would be dismissed. Upon the application of Mr. Stevens, the Bench agreed to state a case.—*Lancashire Daily Post*.

ACTION BY AN ARCHITECT.

THE case of Thompson *v.* Tolhurst came before Mr. Justice Laurance and a special jury in the King's Bench Division on the 5th inst. It was an action by the plaintiff, an architect, to recover commission alleged to be due to him by the defendant, a solicitor.

It appeared that the plaintiff carried on business as an architect, surveyor, and land agent at Southend, and the defendant was the proprietor of the Warrior-square estate at that place. The son of the defendant, Mr. Bernard Tolhurst, asked the plaintiff to introduce lessees or purchasers, intimating that the usual rate of remuneration would be paid. The plaintiff's case was that it was agreed that he should have a fixed remuneration of 2½ per cent. for introducing a purchaser, and as to leases, it was left to the usual terms, which were one year's rent. The plaintiff disposed of a plot to a Mr. Burdett, and the Hotel Victoria, of which the plaintiff was architect, was built on it, and he was paid commission at 2½ per cent. in January, 1899. The plaintiff then prepared plans for an hotel for another plot and endeavoured to find a purchaser, and ultimately, through a Mr. Greenhalgh, introduced a Mr. Hayward, who agreed to take a lease for 99 years at 2,000*l.* a year ground rent on the terms of erecting an hotel according to plans which the plaintiff had prepared. Mr. Hayward appointed the plaintiff his architect and the Hotel Metropole was built on the site. The plaintiff received something under 3,000*l.* as architect's fees for his five years' work. When the plaintiff asked for his commission, as he had to pay a share to Mr. Greenhalgh, the defendant's son said that the appointment as architect was the only remuneration to which he was entitled. A sum of 300,000*l.* had been spent on the building, and the bank which had financed Mr. Hayward had gone into possession. Mr. Hayward had become bankrupt and cannot now be found.

The defence was that the arrangement come to was that the plaintiff was only to be paid for being architect of the building and was not to have any commission, and that, in accordance with this arrangement, the defendant and his son stipulated with Mr. Hayward that the plaintiff was to be appointed architect. As to the commission on the plot sold to Mr. Burdett, the defendant's case was that he was not liable for it, but paid it in case people should say he had behaved shabbily.

Evidence on behalf of the plaintiff was called to prove the custom that on the taking of land on a building lease at a ground rent, the estate agent introducing the person who took the lease was entitled to a commission equal to one year's ground rent, but that where the ground rent was a large sum, as in the present case, there was generally a special arrangement.

The jury awarded the plaintiff 1,300*l.*, and judgment was entered accordingly.

Mr. Duke, K.C., and Mr. Arthur Powell appeared for the plaintiff; and Mr. Bray, K.C., and Mr. George Wallace for the defendant.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

14,420.—METERS (ELECTRICITY): *A. Wright.*—A non-return pointer held so as to be movable against a spring by means of fluid frictional connection with the rotating spindle of a supply meter (see No. 17,764, of 1898) constitutes a maximum demand indicator. An axle, regulated with a spiral spring, carries a pointer over a graduated scale, and has a ratchet wheel that engages with a fixed spring-pressed pawl. Unless the pawl is drawn out by the hand it can turn only forwards. To the meter-spindle is affixed a cup that holds glycerine or other liquid in which vanes upon the axle turn, and the spindle is geared to a registering-train. For liquid friction air can be substituted by making the vanes of the cup and axle so large that they will pass near to one another.

14,437.—AN ATTACHMENT FOR T-SQUARES: *H. W. Roberts.*—A handle is fitted on to the blade of the T-square, and may also be joined with a cord to a block that is secured to the drawing-board, and has a recess that will fit across the blade; the block, when detached from the T-square, can be used with the cord for setting out ellipses.

14,446.—VALVES FOR FLUSHING AND OTHER PURPOSES: *R. C. Grundy, T. R. Grundy, and D. Grundy.*—The supply pipe is joined to a two-way valve, and has a conical check-valve—the former being formed of an inlet valve which a spring retains upon its seat and has on its spindle a piston that works in an air chamber. The spindle of the outflow valve is joined loosely to the spindle of the inlet valve, which will be drawn on to its seat when the other valve has been opened; the spindle of the outflow valve reaches downwards to the tilting seat of the closet. As the seat is depressed the outlet valve will become shut and the inlet valve will open so as to allow water to flow into the container, which will be discharged through the outlet valve as the seat rises.

14,476.—A WINDOW-FASTENER: *H. C. Crouch.*—A spring presses a bolt into engagement with the groove of the sash-frame; the bolt is enclosed in a casing upon the lower sash, and can be withdrawn with a lever, the key of which is controlled with a spring, and, being passed through the casing, will fit any one of a set of holes in the upper sash; a projection from the adjustable head of the key will engage with holes in a plate fastened to the sash; in the one position the key can freely engage with the sash, and in the others it is retained out of engagement.

14,483.—AN APPLIANCE FOR USE IN DRAWING, SKETCHING, &C.: *H. Sheaf.*—Two graduated scales are pivoted on to another graduated scale at a centre which is the origin of a series of radiating lines marked, as on a protractor, upon the base-scale. The extensions of the two other scales beyond that centre of the pivot are marked with central lines, by which one may read the angles between the scales.

14,486.—HOT-WATER APPARATUS: *T. Müller and R. Thomas.*—The radiator, devised for purposes of a steam-heating system, has a sheet-metal casing fitted with a perforated false bottom, a water-outlet, a steam-inlet, a safety-valve, and a steam whistle. The heat derived from the steam is stored up in fragments of burned clay, kaolin, &c., in the upper portion of the cage which when the steam has been periodically admitted and cut off will radiate the heat.

14,496.—A GUARD FOR CIRCULAR SAWS AND OTHER WOOD-WORKING MACHINES: *A. Cook.*—A roller that will bear against the surface of the wood is carried by a pair of spring arms upon an adjustable frame that can be lifted and lowered, a channel-shaped hood is arranged above the arms and is pierced, in its part above the roller, to allow one to see the cutters—all being placed upon a hinged bracket. For circular saws a spring lever is raised, when required, from the saw-table with a handle so that a roller upon the lever will rest upon the wood as it is being sawn.

14,503.—FIRE-BRICKS AND BLOCKS: *B. Talbot.*—The inventor seeks to obviate the cracking or breaking of acid or basic blocks and bricks in furnaces, gas-retorts, and so on. He soaks them in hydro-carbons, coal-tar, heavy oils, resin, for instance, heated to 100 deg. F. The resin or a hydro-carbon that is solid at ordinary temperatures is melted and used separately, or is added to the tar.

14,520.—FLUSHING APPARATUS: *H. L. Doulton.*—The long leg of a bell-siphon is trapped, and from the air-space in the crown of the siphon an air-pipe extends to a vessel wherein, under normal conditions, it is trapped; a lower vessel is connected with a pipe to the latrine outlet siphon, and contains a float which regulates a valve that communicates from one vessel to the other. As the latrine is filled the overflow passes to the lower vessel, whereupon the float rises to open the valve, to empty the upper vessel, and to unseal the end of the air-pipe. The consequent flush draws air away from the crown of the siphon outlet of the latrine, and so starts the discharge. In one of other modifications the starting of the siphon is effected by the lifting up of a bell which covers the end of the air-pipe.

14,526.—AN APPLIANCE FOR SLIDING-DOORS SASHES, &C.: *A. E. Alden.*—The doors and sashes are hung from ball-bearings. In the case, for instance, of sliding-doors, each of them is fitted with a casting grooved for the balls, and with a screw, a portion of which closes the end of the groove, the balls working upon a ledge; thus the door, which is free at the base, is held up.

14,542.—CONTRIVANCE FOR USE IN JOINERY WORK, &C.: *H. O. Howorth and F. V. Robinson.*—The apparatus is devised for marking out the places for tenons, mortices, and so on, in the making of window sashes, doors, door frames, and similar joiner's work. A cross-head is reciprocated vertically above a bed which is affixed to the table, being worked with a treadle framing that is joined by rods to the sleeves that slide upon fixed uprights and support the cross-head; the bed and cross-head carry the adjustable marking cutters, whilst an adjustable gauge-plate and stopping-piece control the position of the woodwork; in a modified form the cross-head and bed can be caused to approach one another horizontally, the gauge-plate being set in a horizontal plane.

14,550. — INSULATION OF ELECTRICAL CONDUCTORS: *N. Tesla.*—The conductors are surrounded with water or some aqueous solution, which is frozen with currents of cold gas, such as carbonic acid, hydrogen, or ammonia. In the case of solid conductors laid in a trough a tube for the cooling gas is also laid down, though it needs not to be used as a conductor. For transformers the coils may be mounted in absorbent media, the cooling gas being taken by the primary in tube shape.

14,620.—MEANS OF DISINFECTING CLOSET AND SIMILAR BASINS: *F. Lettice.*—A receptacle consists of three compartments into one of which the flush is, in part, diverted, and out of which it flows into another compartment that contains liquid disinfectant, some of which is thus forced through a tube into the third compartment, and so to the basin; an overflow pipe of adjustable height, and made of a tube that slides within another, serves as a regulator fitted between two of the divisions of the container.

14,621.—A LIFT VALVE: *W. Woodland.*—A cone-shaped body is screwed into the enlarged lower end of the hollow spindle, and fits on to a conical seating. The spindle is suitably packed within, and a screwed rod is provided for pressing the packing.

14,628.—A STAGE FOR USE IN HOUSE-PAINTING, WINDOW-CLEANING, &C.: *T. H. Streater and T. Allder.*—Brackets that carry a seat, or stand, are fixed upon the window-sill with clamps, studs, and screws, and hooked pivoted tie-bars carry uprights, which are pivoted to the brackets. The back of the frame, which can be folded up, is hinged at the middle, and also to the seat, and can be extended with hooked bars. The accidental disengagement of the hooks from the studs is prevented with pivoted tumblers. There are slotted guide-bars for the clamps, which are worked with screws mounted

on sliding blocks clamped on to arms of the brackets.

14,633.—ELECTRICAL LIGHTING: *P. Lapertot, G. Villard, and L. Pignaud.*—The inventors seek to afford an intermittent supply, and to include in the circuit coils that will effect a sudden rise of potential at the moment of making circuit. In one form a conducting segment in engagement with six contact-brushes, of which the opposite ones are connected together, is mounted upon a drum. The common return and one pole, the drum and the other pole, and the brushes and lamp circuits are, respectively, connected. For continuous currents the use of a rotatory transformer is recommended, and the brushes should be arranged so that the circuit will be opened at the moment when there is no current, and shut again as soon as the voltage has increased.

14,646.—MEANS OF HEATING WATER: *M. I. Cohen.*—A gas-geyser, adapted for easy transport, has a casing consisting of two semi-cylindrical sections of sheet metal secured with hoops. The spraying-ring, which is supplied through a vertical pipe, is perforated within, and upon its under side. Over the burner are disposed a pile of pans which are flared upwards and downwards in turn, a trough, and a discharge-spout. The water is sprayed both within and without the pans, between which water-spreading rings are set.

14,672.—A HOLDER OR STAY FOR CASEMENT-WINDOWS: *G. F. Dean.*—The stay is devised for holding the window at an angle, and will not project or hang down when the window is closed or opened. It is double-jointed on to a plate affixed to the sill, at its free end is a double-headed stud which is to be slipped through a notch into a guiding-piece on the bar that is secured to the bottom of the casement, and the end of the stay is retained in various positions by means of holes and notches in the bar, its movement being facilitated by ratchet tooth-shaped ridges between the notches.

14,697.—BLOCKS, TILES, SLABS, &C., FOR PAVEMENTS AND FLOORS: *G. F. Thomson.*—These are keyed with a backing of artificial stone by means of their recesses, projections, or ribs, they are laid with their faces downwards upon a flat table and clamped in a mould-frame consisting of four bars pierced near their ends and screwed together, the artificial stone is then run into the frame to fill the spaces. A mould for making three compound blocks at one time consists of two pieces secured to partition-plates made of slate, the spaces between the plates, pieces, and sides of the mould are filled with the artificial stone in a liquid state. For mosaic slabs pieces of stones, &c., are attached to a mould-plate, or to the partition-plates, before the stone is poured in. In one form the blocks are recessed so as to take the stone backing, and are to be fastened to one another with dove-tailed battens which are nailed or screwed on to them. A cement or concrete foundation is dispensed with, and worn slabs can be renewed.

14,728.—A PERCUSSIVE ROCK-DRILL: *S. Mesropian.*—The revolving hammer-heads are pivoted between two plates and held with their cam-shaped ends in such a manner that they will pass the drill after they have struck it. A shaft driven from a crank-handle or pulley with spur gearing carries the plates; a spring holds the drill down, and a worm-wheel driven from a shaft (on which fly-wheels or balls are mounted) with a worm and chain turn the drill. A frame that slides in a standard frame carries the drilling mechanism, and a screw worked with a hand-wheel and bevel gear supplies the feed.

14,743.—AN ELECTRICAL CUT-OUT: *H. F. Clayton.*—The contrivance, which is devised to obviate arcing and to afford means for the ready replacement of a fuse, consists of a cover, an inside piece joined to plug-contacts and holding the fuse, and a base to the sockets of which the main conductors are connected.

MEETINGS.

FRIDAY, DECEMBER 13.

Architectural Association.—"Travelling Students Notes," by Mr. J. E. Forbes. 7.30 p.m.

SATURDAY, DECEMBER 14.

Institution of Junior Engineers.—Visit to the Croydon Combined Electric Light and Traction Works. 3.15 p.m.

Dundee Institute of Architecture.—Visit to Arbroath and Hospitalfield.

MONDAY, DECEMBER 16.

Liverpool Architectural Society (Incorporated).—Mr. C. Brien on "Wood-staining and Veneering," illustrated with specimens of woods and stains. After the paper, Mr. James Cook will show with a lantern some slides of French Cathedrals. 6 p.m.

TUESDAY, DECEMBER 17.

Institution of Civil Engineers.—Discussion on Mr. Bryan Donkin's paper on "Motive-power from Blast-furnace Gases." 8 p.m.

WEDNESDAY, DECEMBER 18.

Society of Arts.—Professor George Forbes, F.R.S., on "Range Finders." 8 p.m.

Institute of Sanitary Engineers.—General Purposes and Finance Committee Meeting. 4 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

Edinburgh Architectural Association.—Baillie Mackenzie on "Ventilating and Heating." 8 p.m.

THURSDAY, DECEMBER 19.

London Institution.—Mr. W. St. Chad Boscawen on "Recent Discoveries at Susa," illustrated. 6 p.m.

Institution of Electrical Engineers (Dublin Local Section).—An address will be given by the Chairman, Professor W. F. Barrett, F.R.S. 7.30 p.m.

Institution of Electrical Engineers.—Adjourned discussion on Mr. Arthur Wright's paper, entitled "Some Principles Underlying the Profitable Sale of Electricity." 8 p.m.

FRIDAY, DECEMBER 20.

Architectural Association Discussion Section.—Mr. Howard Humphreys on "The Manufacture, Testing, and Uses of Portland Cement." 7.30 p.m.

Institution of Mechanical Engineers.—Mr. W. Campbell, B.Sc., on "The Microscopical Examination of the Alloys of Copper and Tin." 8 p.m.

Institution of Civil Engineers (Students' Meeting).—Mr. A. M. Morgan on "Transmission Dynamometers." 8 p.m.

Glasgow Architectural Craftsmen's Society.—"Tiles": (*a*) Mr. W. G. Peddie on "Wall and Floor Tiles": (*b*) Mr. J. M'Kim on "Substitutes for Tiles." 8 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

November 25.—By CHANCELLOR & SONS (at Richmond).

Richmond, Surrey.—1, George-st., c., r. 200*l.*	£4,600
46 and 47, George-st., c., r. 465*l.*	10,900
15, George-st., an improved rental of 20*l.* for 7 yrs.	300
34 and 36, The Vineyard, c., r. 45*l.*	510
38, The Vineyard, c., r. 120*l.*	2,200
Wandsworth.—51, High-st., f., r. 85*l.*	1,900
Mortlake.—44, High-st., f., r. 55*l.*	1,150
Putney.—32 to 38 (even), High-st., f., r. 410*l.*	9,350
1 and 3, Weimar-st., u.t. 67 yrs., g.r. 11*l.* 10s.	920

November 28.—By BAXTER, PAYNE, & LEPPER (at Bromley).

Bromley, Kent.—9, 11, 13, and 15, Havelock-rd., u.t. 78½ yrs., g.r. 18*l.*	450
Beckenham, Kent.—50 and 52, Rowden-rd., u.t. 89½ yrs., g.r. 7*l.*, r. 54*l.*	550

By DAVID J. CHATTELL (at Sidcup).

Foots Cray, Kent.—Cray-rd., seven plots of freehold building land	257

November 29.—By G. NICHOLS, HOWES, & CO. (at Newport).

Llantrissant, &c., Mon.—Penyrhewl Farm, 131 a. 0 r. 6 p., f.	1,750
Newchurch, Mon.—Buckhold Farm, 118 a. 0 r. 38 p., f.	1,225
Brooklands Farm, 8 a. 1 r. 21 p., f.	215

By GREEN & SON (Hammersmith).

Kensington.—Abingdon-rd., f.g.r. 21*l.*, reversion in 59 yrs.	570
67, Abingdon-rd., f., r. 72*l.*	1,660

By MARK LIELL & SON.

Bow.—130 and 132, St. Dunstan's-rd., with factory and foundry adjoining, f., r. 86*l.*	1,410
West Ham.—12 to 18 (even), Chaplin-rd., u.t. 80 yrs., g.r. 11*l.*	420

By MONTAGUE & ROBINSON.

Battersea.—21 and 23, Wye-st., u.t. 79 yrs., g.r. 9*l.* 10s.	440
61 and 63, Kambala-rd., u.t. 79 yrs., g.r. 11*l.*	545
Bermondsey.—9, Lynton-rd., u.t. 33 yrs., g.r. 5*l.*, r. 30*l.*	270
Poplar.—44, Northumberland-st., u.t. 51½ yrs., g.r. 2*l.* 10s.	190
Sutton, Surrey.—40 to 50 (even), George-st., u.t. 65½ yrs., g.r. 22*l.*	390

By PEACEY & FULLER.

Brentford, Middlesex.—St. Paul's-rd., a block of freehold building land, area 7,680 ft.	800

By WESTMORE & YOUNG.

Anerley.—24, Thicket-rd., u.t. 216 yrs., g.r. 13*l.*, r. 50*l.*	405

November 30.—By HAMPTON & SONS (at Wimbledon).

Wimbledon.—Durham-rd., eleven building sites, f.	1,164
Cambridge-rd., seven building sites, f.	467

December 2.—By ARDING & HOBBS.

Battersea.—31, Birley-st., u.t. 70 yrs., g.r. 3*l.* 10s.	270

By JOHN BOTT & SONS.

Brockley.—42, Whitbread-rd., u.t. 77½ yrs., g.r. 5*l.*, r. 32*l.*	375

By ELLIS & SON.

Notting Hill.—4, 6, 8, and 10, Elgin-cres., f., r. 223*l.*	4,440
12 and 14, Elgin-cres., u.t. 61 yrs., g.r. 20*l.*, r. 110*l.*	1,765
Chelsea.—430 and 432, King's-rd., u.t. 61 yrs., g.r. 4*l.*, r. 220*l.*	2,810
436, King's-rd., u.t. 61 yrs., g.r. 8*l.*, r. 70*l.*	1,000
Chelsea.—Church-st., a range of stabling, workshops, and yard, u.t. 12¼ yrs., g.r. 21*l.*, r. 65*l.*	250
Bow.—52 to 58 (even), Campbell-rd., u.t. 61 yrs., g.r. 20*l.*, r. 130*l.*	1,330

By GRANT, WHIELDON, & CO.

Bayswater.—31, Pembridge-villas, u.t. 53 yrs., g.r. 20*l.*, r. 50*l.*	390

By F. MILLER & REID.

Finchley.—Holden-avenue, a freehold building site	430

By NORMAN & SON (at Stratford).

Forest Gate.—125, Hampton-rd., u.t. 80 yrs., g.r. 7*l.* 6s., e.r. 40*l.*	400
Walthamstow.—41, 43, and 45, Gladstone-rd., f.	650
Stratford.—30 and 32, Ashlin-rd., u.t. 45 yrs., g.r. 10*l.*	315

December 3.—By DEBENHAM, TEWSON, & CO.

Mayfair.—38, South Audley-st., beneficial leases for 10 yrs., r. 170*l.*	1,200

By FLEURET, SONS, & ADAMS.

Marylebone.—26 and 28, George-st. (Durrant's Hotel), u.t. 26½ yrs., g.r. 120*l.*, r. 420*l.*	3,260
Hampstead-rd.—Exmouth-st., &c., i.g.r. 94*l.* 11s., u.t. 9 yrs., g.r. 8*l.*	475
Exmouth-st., the Exmouth Arms p.h., profit rental of 20*l.* for 9 years	100

By G. HEAD & CO.

Plaistow.—70 and 72, Chauntler-rd., f.	630

By MORLEY PHILLIPS, SONS, & MARTIN.

Copiapo, Chili.—The Copiapo Gasworks, area 1 a., f. (as a going concern)	5,400

By RUTLEY, SON, & VINE.

Holloway.—22 and 23, Hilldrop-cres., u.t. 47 yrs., g.r. 16*l.*	£1,110
Camden Town.—10 and 12, St. Paul's-cres., u.t. 59¼ yrs., g.r. 14*l.*, r. 78*l.*	915
61, Torriano-av., u.t. 35 yrs., g.r. 1*l.*, e.r. 50*l.*	330
Kentish Town.—123, Weedington-rd., u.t. 61½ yrs., g.r. 6*l.* 6s., r. 32*l.*	345
32, Ashdown-st., u.t. 64½ yrs., g.r. 7*l.*, r. 34*l.*	415
108, Allcroft-rd., u.t. 64 yrs., g.r. 7*l.* 7s., r. 32*l.*	365

By H. W. SMITH.

Shepherd's Bush.—37, Oaklands-grove, u.t. 60 yrs., g.r. 10*l.*	270

By TOWERS, ELLIS, & CO.

New Bond-st.—No. 128, beneficial lease for 17½ yrs., r. 350*l.*	2,500

By FRED. WARMAN.

Edgware-rd.—No. 50, also 19, Hampden Gurney-st., u.t. 25½ yrs., g.r. 50*l.*, r. 250*l.*	2,430
Barnsbury.—36, 38, and 40, Warner-st., u.t. 58 yrs., g.r. 24*l.*	1,200
60, Roman-rd., u.t. 58 yrs., g.r. 8*l.*	350
Highbury.—24, Kelvin-rd., u.t. 67 yrs., g.r. 7*l.*, e.r. 48*l.*	460
Old Ford.—17, Auckland-rd., f., r. 33*l.*	480
Islington.—17 and 18, Astey's-row, u.t. 17 yrs., g.r. 12*l.*, r. 78*l.*	360

By TOMKINS & CAPPER (at Abergavenny).

Grosmont, Monmouth.—The Farm, 219 a. 3 r. 28 p., f.	2,500
Great Campston Farm, 472 a. 2 r. 11 p., f.	4,300
Little Campston Farm, 43 a. 0 r. 11 p., f.	500
Blantrothy Farm, 117 a. 3 r. 39 p., f.	1,010
Grosmont Wood Farm, 34 a. 0 r. 9 p., f.	600

By KNIGHT & BRANGWIN (at Masons' Hall Tavern).

City of London.—Fleet-st., Punch's Tavern, u.t. 68 yrs., r. 150*l.*, with goodwill; also 98 and 100, Fleet-st., and 25 and 26, Bride-lane, u.t. 74 and 70½ yrs., g.r. 675*l.*, r. 1,150*l.*	11,000

December 4.—By BAXTER, PAYNE, & LEPPER.

Sidcup, Kent.—4, The Crescent and 1 a. 3 r. 0 p., u.t. 67 yrs., g.r. 2*l.*, r. 120*l.*	1,320
Beckenham, Kent.—Barnmead-rd., Tarrawatta, u.t. 73½ yrs., g.r. 8*l.* 8s., r. 52*l.*	550

By FOSTER & CRANFIELD.

Hackney.—1, Lower Homerton-ter., f.	450
Homerton-ter., a plot of building land, f.	400
17 and 18, Hockley-st. and Western Cottage, u.t. 14½ yrs., g.r. 10*l.* 10s.	130

By REYNOLDS & EASON.

Stepney.—20 and 22, Elsa-st., f.	580
Poplar.—56, Cotton-st., f.	485

By CHAS. VARLEY.

Stamford Hill.—40, Castlewood-rd., u.t. 70 yrs., g.r. 6*l.* 10s., r. 34*l.*	300
Dalston.—46, 48, and 50, Mayfield-rd., u.t. 53 yrs., g.r. 24*l.* 10s., r. 114*l.*	1,135

By GEORGE RAMUZ.

Ropley, Hants.—Main road, two cottages and enclosure, 11 a. 2 r. 0 p., f.	130
Barnetts Wood-lane, five blocks of land, with a set of farm buildings, 49 a. 0 r. 12 p., f.	525

By WOOTTON & GREEN.

Dulwich.—521, Lordship-lane, f., r. 40*l.*	720

By DOUGLAS YOUNG & CO.

Hornsey.—Hillfield-avenue, Llyshendy, u.t. 90 yrs., g.r. 9*l.*, e.r. 65*l.*	620
Wimbledon.—88, Kingston-rd., u.t. 77 yrs., g.r. 7*l.*, r. 55*l.*	670
Lambton-rd., Haslemere, f., e.r. 55*l.*	550
Westgate-on-Sea, Kent.—2, The Grove, f., e.r. 45*l.*	550

December 5.—By CHESTERTON & SONS.

Kensington.—57, Bedford-gardens, u.t. 60 yrs., g.r. 120*l.*, e.r. 618*l.*	3,000
Soho.—33a, Dean-st., f., r. 80*l.*	1,860
Bermondsey.—Grange Walk, the Duke of Sussex b.-h., f.g.r. 34*l.* 13s., reversion in 24 yrs.	910

By FAREBROTHER, ELLIS, & CO.

Soho.—26 and 29, Dean-st., f., r. 130*l.*	3,550
13, Church-st., f., r. 82*l.*	2,550
1 and 3, St. Ann's-court., f., r. 77*l.*	1,560
Bloomsbury.—33, Tavistock-sq., u.t. 21½ yrs. g.r. 30*l.*, e.r. 130*l.*	68[0]

By HORNE & CO.

Shadwell.—37, 38, and 39, Wapping-wall, f., r. 30*l.*	695

By NEWBON, EDWARDS, & SHEPHARD.

Caledonian-road.—69, 71, and 73, Pembroke-st., u.t. 48 yrs., g.r. 3*l.*	1,065
98, 113, 119, and 121, Pembroke-st., u.t. 48 yrs., g.r. 24*l.* 10s.	1,225
54, 56, and 65, Outram-st., u.t. 56½ yrs., g.r. 18*l.*	1,090
Forest Hill.—36, 38, and 40, Siddons-rd., u.t. 94 yrs., g.r. 18*l.*, r. 84*l.*	610
Hampstead.—11, Lyncroft-gardens, u.t. 94 yrs., g.r. 11*l.*, e.r. 70*l.*	850
Stoke Newington.—Arcola-st., i.g.r. 40*l.*, u.t. 12 yrs., g.r. 14*l.*	200
Somers Town.—102 to 108 (even), Aldenham-st., u.t. 59½ yrs., g.r. 40*l.*	365

By ALFRED SQUIRE.

Chelsea.—20, Halsey-st., u.t. 41 yrs., g.r. 6*l.*, r. 60*l.*	675
Highgate.—95, North-hill, c., r. 30*l.*	530

By STIMSON & SONS.

Shepherd's Bush.—112, Devonport-rd., f., e.r. 40*l.*	550
Camberwell.—11, 13, and 15, Havil-st., f., r. 94*l.*	1,155
Kennington.—4, 5, and 6, Lucas-rd., u.t. 22½ yrs., g.r. 15*l.*	480
Anerley.—21, Derwent-rd., u.t. 63 yrs. g.r. 10*l.*, e.r. 40*l.*	235
Forest Hill.—35, Fermor-rd., u.t. 89¼ yrs., g.r. 6*l.*, r. 30*l.*	275
1, Boveney-rd., f., r. 42*l.*	570
Peckham.—96 and 102, Copeland-rd., u.t. 73½ yrs., g.r. 10*l.* 10s.	660
94, East Surrey-grove, u.t. 60¾ yrs., g.r. 3*l.*	275
Walworth.—50, Olney-st., u.t. 13¾ yrs., g.r. 4*l.* 10s., r. 34*l.*	120
Stockwell.—17 and 19, Stockwell-grove, u.t. 35½ yrs., g.r. 6*l.*	300
Haggerston.—11, Cester-st., u.t. 40 yrs., g.r. 4*l.* 10s.	135
Hornsey.—17, Harringay-rd., u.t. 68 yrs., g.r. 5*l.*	165
Wimbledon.—2, Latimer-rd., f., r. 45*l.*	700
Mitcham, Surrey.—Love-lane, two freehold houses, area 1 a., r. 36*l.*	600

By WORSFOLD & HAYWARD (at Dover).

Dover, Kent.—10, Marine-parade, u.t. 21½ yrs., g.r. 1*l.* 16s. 3d.	£645
288 and 293, London-rd., f.	875
74, Maison Dieu-rd., u.t. 59 yrs., g.r. 5*l.* 8s., r. 40*l.*	450
61, Clarendon-pl., u.t. 67 yrs., g.r. 1*l.* 10s.	165
3 and 5, Chapel-lane, f.	420

December 6.—By BARKER & SON.

Leytonstone.—96 to 102 (even), Crownfield-rd., u.t. 77 yrs., g.r. 4*l.* 10s.	740
66, Granleigh-rd., u.t. 93½ yrs., g.r. 3*l.* 16s.	270
Hackney.—7 and 9, Brett-rd., u.t. 74½ yrs., g.r. 13*l.*	565
Walthamstow.—67, Hoe-st., u.t. 75 yrs., g.r. 6*l.*	240

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Hard Stocks	1 12 0	per 1,000 alongside, in river.
Rough Stocks and Grizzles	1 10 0	,, ,, ,,
Facing Stocks	2 12 0	,, ,, ,,
Shippers	2 8 0	,, ,, ,,
Flettons	1 8 0	,, at railway depôt.
Red Wire Cuts	1 12 0	,, ,, ,,
Best Fareham Red	3 11 0	,, ,, ,,
Best Red pressed Ruabon Facing.	5 5 0	,, ,, ,,
Best Blue Pressed Staffordshire	4 6 6	,, ,, ,,
Do., Bullnose	4 10 0	,, ,, ,,
Best Stourbridge Fire Bricks	4 4 0	,, ,, ,,
GLAZED BRICKS		
Best White and Ivory Glazed Stretchers	13 0 0	,, ,, ,,
Headers	12 0 0	,, ,, ,,
Quoins, Bullnose, and Flats	17 0 0	,, ,, ,,
Double Stretchers	19 0 0	,, ,, ,,
Double Headers	16 0 0	,, ,, ,,
One Side and two Ends	19 0 0	,, ,, ,,
Two Sides and one End	20 0 0	,, ,, ,,
Splays, Chamfered, Squints	20 0 0	,, ,, ,,
Best Dipped Salt Glazed Stretchers and Headers	12 0	,, ,, ,,
Quoins, Bullnose, and Flats	14 0 0	,, ,, ,,
Double Stretchers	15 0 0	,, ,, ,,
Double Headers	14 0 0	,, ,, ,,
One Side and two Ends	15 0 0	,, ,, ,,
Two Sides and one End	15 0 0	,, ,, ,,
Splays, Chamfered, Squints	14 0 0	,, ,, ,,
Seconds Quality White and Dipped Salt Glazed	8 0 0	,, less than best.

	s. d.	
Thames and Pit Sand	7 3	per yard, delivered
Thames Ballast	6 0	,, ,,
Best Portland Cement	32 0	per ton, delivered.
Best Ground Blue Lias Lime	25 0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	11s 6d.	per yard, delivered
Stourbridge Fire-clay in sacks, 28s. od.		per ton at rly. dpt

STONE.

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. depôt.
Bath ,,	1 7	,, ,,
Farleigh Down Bath	1 8	,, ,,
Beer in blocks	1 6½	,, ,,
Grinshill ,,	1 10	,, ,,
Brown Portland in blocks	2 2	,, ,,
Darley Dale in blocks	2 4	,, ,,
Red Corsehill ,,	2 5	,, ,,
Red Mansfield ,,	2 4	,, ,,
Hard York in blocks	2 10	,, ,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 8	per ft. super at rly. depôt
,, ,, 6 in. Rubbed Ditto	3 0	,, ,,
,, ,, 3 in. sawn both sides slabs (random sizes)	1 3	,, ,,
,, ,, 2 in. self-faced Ditto	0 9½	,, ,,
Hopton Wood (Hard Bed) in blocks	2	3 per ft. cube. deld. rly. depôt
,, ,, ,, 6-in sawn both sides landings	2	7 per ft. super. deld. rly. depôt.
,, ,, ,, 3-in. do.	1 2½	,, ,,

SLATES.

in. in.	£ s. d.	
20×10 best blue Bangor	11 5 0	per 1000 of 1200 at ry. dep
,, best seconds ,,	10 15 0	,, ,,
16× 8 best ,,	6 2 6	,, ,,
20×10 best blue Portmadoc	10 18 0	,, ,,
16× 8 best blue Portmadoc	6 0 0	,, ,,
20×10 best Eureka unfading green	11 2 6	,, ,,
16× 8 ,, ,,	6 15 0	,, ,,
20×10 Permanent green	10 0 0	,, ,,
16× 8 ,, ,,	5 12 6	,, ,,

PRICES CURRENT (*Continued*).

TILES.

	s. d.	
Best plain red roofing tiles	42 6	per 1,000 at rly. depôt
Hip and valley tiles	3 7	per doz. ,, ,,
Best Broseley tiles	48 6	per 1,000 ,, ,,
Hip and valley tiles	4 0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 ,, ,,
Do. ornamental Do.	60 0	,, ,, ,,
Hip tiles	4 0	per doz. ,, ,,
Valley tiles	3 9	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000 ,, ,,
Hip tiles	4 1	per doz. ,, ,,
Valley tiles	3 8	,, ,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	13 10 0	15 10 0
Deals: best 3 by 9	13 0 0	14 10 0
Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in.	10 0 0	11 0 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in
Deals: seconds	1 0 0	lesstban best
Battens: seconds	0 10 0	,, ,, ,,
2 in. by 4 in. and 2 in. by 6 in.	8 10 0	9 10 0
2 in. by 4½ in. and 2 in. by 5 in.	8 0 0	9 0 0
Foreign Sawn Boards—		
1 in. by 1½ in. by 1½ in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks	2 15 0	3 0 0
Pitch pine timber (32 ft.)	3 0 0	3 10 0

JOINERS' WOOD.

	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.	22 0 0	23 0 0
3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	15 0 0	16 0 0
Second yellow deals, 3 in. by 11 in.	17 0 0	18 0 0
,, ,, 3 in. by 9 in.	15 10 0	16 10 0
Battens, 2½ in. and 3 in. by 7 in.	12 0 0	13 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	12 10 0	13 10 0
Battens, 2½ in. and 3 in. by 7 in.	10 10 0	11 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	19 0 0	20 0 0
Do. 3 in. by 9 in.	16 0 0	17 0 0
Battens	12 10 0	13 0 0
Second yellow deals, 3 in. by 11 in.	14 0 0	15 0 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	11 0 0	12 0 0
Third yellow deals, 3 in. by 11 in.	11 10 0	12 10 0
Do. 3 in. by 9 in.	11 0 0	12 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in.	13 10 0	14 13 0
,, ,, ,, 3 in. by 9 in.	12 10 0	13 0 0
Battens	10 10 0	11 10 0
Second white deals 3 in. by 11 in.	12 10 0	13 10 0
,, ,, ,, 3 in. by 9 in.	12 0 0	12 10 0
,, ,, battens	9 10 0	10 10 0
Pitch pine: deals	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	32 0 0	33 10 0
Broads (12 in. and up)	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 2 6	0 3 0
Small ,, ,,	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 8	0 0 7
¾ in. do. do.	0 0 7	- - -
Dry Mahogany—		
Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks—		
Per ft. cube	0 3 0	0 3 6

Prepared Flooring—	Per square	
1 in. by 7 in. yellow, planed and shot	0 13 0	0 16
1 in. by 7 in. yellow, planed and matched	0 13 6	0 17 6
1¼ in. by 7 in. yellow, planed and matched	0 15 0	1 0 0
6 in. at 6d. per square less than 7 in.		
1 in. by 7 in. white, planed and shot	0 11 0	0 12 6
1 in. by 7 in. white, planed and matched	0 11 6	0 13 6
1¼ in. by 7 in. white, planed and matched	0 13 6	0 15 6
6 in. at 6d. per square less than 7 in.		

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 5 0	7 5 0
Compound Girders ,, ,,	8 0 0	9 0 0
Angles, Tees and Channels, ordinary sections	8 2 6	9 2 6
Flitch Plates	8 10 0	9 0 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 0 0	8 0 0

PRICES CURRENT (*Continued*)

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON.—		
Common Bars	8 0 0	8 10 0
Staffordshire Crown Bars, good merchant quality	8 10 0	9 0 0
Staffordshire "Marked Bars"	10 10 0	- - -
Mild Steel Bars	9 0 0	9 10 0
Hoop Iron, basis price	9 5 0	9 15 0
,, ,, galvanised	16 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.—		
Ordinary sizes to 20 g.	10 0 0	- - -
,, ,, to 24 g.	11 0 0	- - -
,, ,, to 26 g.	12 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 10 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.	14 0 0	- - -
Sheet Iron, galvanised, flat, best quality.—		
Ordinary sizes to 20 g.	16 10 0	- - -
,, ,, 22 g. and 24 g.	17 0 0	- - -
,, ,, 26 g.	18 10 0	- - -
Galvanised Corrugated Sheets.—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 10 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.	14 0 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 5 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Cut nails, 3 in. to 6 in.	9 10 0	10 0 0
(Under 3 in. usual trade extras.)		

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	13 5 0	- - -
Pipe in coils	13 15 0	- - -
Soil Pipe	16 5 0	- - -
ZINC—Sheet—		
Vieille Montagne ton	24 10 0	- - -
Silesian	24 0 0	- - -
COPPER—		
Strong Sheet per lb.	0 1 0	- - -
Thin ,,	0 1 1½	- - -
Copper nails ,,	0 1 1½	- - -
BRASS—		
Strong Sheet ,,	0 0 11	- - -
Thin ,, ,,	0 1 1	- - -
TIN—English Ingots ,,	0 1 3	- - -
SOLDER—Plumbers' ,,	0 0 6½	- - -
Tinmen's ,,	0 0 8	- - -
Blowpipe ,,	0 0 9	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2⅜d. per ft. delivered.
,, ,, fourths	2½d. ,, ,,
21 oz. thirds	3½d. ,, ,,
,, ,, fourths	3¼d. ,, ,,
26 oz. thirds	4¼d. ,, ,,
,, ,, fourths	4½d. ,, ,,
32 oz. thirds	5⅜d. ,, ,,
,, ,, fourths	5¼d. ,, ,,
Fluted sheet, 15 oz.	3½d. ,, ,,
,, ,, 21 ,,	4¼d. ,, ,,
⅛ Hartley's Rolled Plate	2⅜d. ,, ,,
¼ ,, ,, ,,	3½d. ,, ,,
½ ,, ,, ,,	3¾d. ,, ,,

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes	0 2 10	per gallon
,, ,, in barrels	0 2 11	,,
,, ,, in drums	0 3 1	,,
Boiled ,, in pipes	0 3 0	,,
,, ,, in barrels	0 3 1	,,
,, ,, in drums	0 3 3	,,
Turpentine, in barrels	0 2 3	,,
,, in drums	0 2 6	,,
Genuine Ground English White Lead	21 10 0	per ton
Red Lead, Dry	21 10 0	,,
Best Linseed Oil Putty	0 8 6	per cwt.
Stockholm Tar	1 12 0	per barrel

VARNISHES, &c.

	per gallon. £ s. d.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 0
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

J. S. M.—S. S. (Amounts should have been stated).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

AYLSHAM (Norfolk).—For alterations at workhouse, for the Guardians. Mr. J. B. Pearce, architect, 15, Upper King-street, Norwich. Quantities by architect :—

Hawes & Son	£940 0	F. Culley	£789 0
W. Wilkin	833 0	Boddy & Son	744 10
R. Chapman	820 0	C. S. Bligh	720 0
G. Took	796 0	W. & H. Wade, Aylsham*	695 1
W. Wilson	792 10		

BRISTOL.—For the construction of sewers, Sneyd Park and Shirehampton, for the Barton Regis Rural District Council. Mr. A. P. T. Cotterell, C.E., 28, Baldwin-street, Bristol :—

	Sneyd Park Sewer.	Bradley Crescent Sewer, Shirehampton.
W. & J. Bennett	£1,000 0	£320
S. Wood	827 0	280
J. Flower	825 0	335
J. Hatherley	724 0	237
M. Lovell	717 0	281
J. & T. Binns	700 0	240
A. Heard, Shirehampton	674 0*	225
Lowe, Ltd.	673 0	265
Dare & Sons	669 10	—
Mereweather & Son, Bedminster, Bristol	629 0*	239

CANTERBURY.—For the erection of three cottages in the Martyrs' Fields-road, for Mr. Edward Layton. Mr, A. H. Steele, architect, 1, Effingham-lawn, Folkestone-road, Dover. Quantities by the architect :—

Mount	£1,200	Elvey	£956
Brewster	1,140	Lewis & Sons	874
Smellie	1,010	Goldsmith & Tapley, Dover*	774
Turner & Co.	978		

CASTLEISLAND (Ireland).—For the erection of a tower and spire at church, for Ven. Archdeacon O'Leary. Mr. D. J. Coakley, C.E., 1, Charlotte Quay, Cork :—

J. A. O'Connell	£4,929 18	J. J. Coffey	£3,297 0

CROOKSTON (N.B.).—For works at schools for the Inveresk School Board. Mr. Constable, architect, 3, Hill-street, Edinburgh :—

Masonry.—Banks & Son, Musselburgh*	£1,181 0 0
Joinery.—Adam Currie, Edinburgh*	912 0 0
Plumbing.—David Templeton, Tranent*	170 0 0
Plastering.—Alfred Bolster, Edinburgh*	209 15 0
Slating.—James Strachan, Musselburgh*	286 2 0
Ironwork.—Bell & Son, Edinburgh*	99 18 0
Painting.—T. S. Chalmers, Dalkeith*	80 4 11
Glazing.—Coutts & Cameron, Edinburgh*	40 8 6
Heating.—Mackenzie & Moncar, Edinburgh*	127 0 0

DURHAM.—For the erection of printing works, Saddler-street, for Mr. T. Caldeleugh. Mr. H. T. Gradon, architect, Market-place, Durham :—

J. G. Bradley	£2,080 0	Thos. Coates	£1,863 0
Draper & Sons	2,000 9	Gradon & Son, Durham†	1,814 0
G. T. Manners	1,995 0		
Ayton & Caldcleugh	1,912 0		

EALING.—For building eight houses and shop on the Ealing Park Estate, for Mr. John Angles. Mr. J. Hume, architect and surveyor, High-road, Chiswick :—

J. H. Johnson, Ealing Park‡ £2,890

‡ Amended tender.

FENTON (Staffs.).—For the erection of a steam bakery. Mr. Elijah Jones, architect, 10, Albion-street, Hanley :—

L. Price	£1,142 0 0	Brain & Smith	£995 0 0
C. Dunn	1,138 15 0	T. Godwin	940 0 0
P. Bennion	1,093 0 0	Cornes	930 0 0
R. James	1,091 15 8	J. Bagnall, Fenton*	925 0 0
Embrey & Co.	1,077 7 6		
Moore & Co.	1,024 0 0		

FLEETWOOD (Lancs.).—For the erection of a pavilion, &c., for the Urban District Council. Mr. E. Frobisher, C.E., Town Hall, Fleetwood. Quantities by Mr. H. A. Luke, 22, Great Chapel-street, Westminster :—

J. C. Barnes	£1,316 17 9	Parkinson & Sons	£1,214 7 10
Lancaster & Atkinson	1,308 3 7	T. Riley	1,212 11 1
Blackburn & Hastings	1,289 0 0	The Portable Building Co., Ld., Fleetwood*	1,149 1 2

GREAT BENTLEY (Essex).—For alterations to the Wesleyan Chapel, for the Trustees. Mr. C. E. Butcher, architect, 3, Queen-street, Colchester. Specification only by the architect :—

Dumerton	£207 10	H. Smith	£156 0
J. Canham	185 0	J. McKay	149 0
Pennick & Taylor	165 0	E. Capon, Manningtree*	120 14
G. & J. Ambrose	165 0		

HALIFAX.—For the erection of the Golden Lion Hotel, Highroad Well, for Messrs. Bear & Brown, Ltd. Mr. Lister Coates, architect, Waterhouse-street, Halifax :—

Masonry, Bricklaying, and Excavating.

Thomas Pickles, Luddenden Foot, near Halifax* £2,096 13

Carpentry and Joinery.

Fielding & Bottomley, South Parade, Halifax* £777 17

Plumbing and Glazing.

Naylor & Son, Cheapside, Halifax* .. £330 0

Slating and Plastering, and Concrete.

Rushworth & Firth, New Bank, Halifax* £455 10

Painting and Paperhanging.

Milligan & Son, Hanson-lane, Halifax* £50 0

Total.... £3,710 0

HARROW-ON-THE-HILL. — For the execution of sewerage works, for the Urban District Council. Mr. J. P. Bennetts, Surveyor, Council Offices, Harrow-on-the-Hill :—

T. W. Pedrette	£9,433	J. Jackson	£8,230
E. W. Hollingsworth	8,923	Wilkinson Bros.	8,216
Meston & Hall	8,545	Clift Ford, Harlesden*	7,974
Cooke & Co.	8,483	Lowes Syndicate	7,425
J. & T. Binns	8,404		
Wimpey & Co.	8,254		

[Surveyor's estimate, £8,350.]

HAYLE (Cornwall).—For the erection of school buildings, and alterations to chapel. Mr. Sampson Hill, architect, Green-lane, Redruth :—

	For School.	For Chapel.	Total.
Walters	£2,181 16 6	£978 5 6	£3,159 7
Winn	1,889 10 0	934 0 0	2,823 10
W. C. Hodge	1,750 0 0	853 0 0	2,603 0
Miners	1,760 0 0	837 0 0	2,597 0
Hosking	1,755 8 0	795 2 0	2,551 10
White & Thomas, Crowan, Camborne*	1,816 0 0	673 0 0	2,489 0

HESWALL (Cheshire). — For the construction of Lydiate-road, for the Wirral Rural District Council. Mr. Thomas Davies, surveyor, Eastham :—

Lee & Sons	£217 19 11½	R. Hughes, Brinstage*	£200 0 0

HORLEY (Surrey).—For the erection of a fire-engine station and fireman's residence in the Albert-road, Horley, for the Horley Parish Council. Mr. C. H. Burstow, architect, 6, West-street, Horsham, Sussex :—

Thomas Wickens, Chapel-road, Charlwood* £848

HORSHAM (Sussex).—For pulling down business premises, No. 57, East-street, Horsham, and erection of new house and shop thereon, for Mr. Thomas Richardson. Mr. C. H. Burstow, architect, 6, West-street, Horsham :—

G. Potter	£1,080 0	Potter Bros.	£898 0
Lindfield & Son	960 0	Hillman & Murrell*	807 10
Rowland Bros.	938 0	[All of Horsham.]	

ILLOGAN. — For girls' school at Illogan, for the Illogan School Board. Mr. Sampson Hill, architect and surveyor, Green-lane, Redruth :—

Hosking	£1,415 12	J. Roberts, Carn Brea, R.S.O.*	£1,058 10
J. Odgers	1,320 0	W. H. Moyle	1,050 0
Opie & Hodge	1,310 0		
Mitchell & Hodge	1,135 0		

ILSINGTON.—For the erection of stables, &c., Moorland Hotel, Hayter Rock, for Messrs. Hellier. Mr. S. Segar, architect, Newton Abbon, Devon :—

Bovey & Son, Torquay £800

KETTERING.—For Outfall Sewers and Flushing Chambers, for the Urban District Council. Mr. T. R. Smith, Surveyor, Market-place, Kettering :—

—	East Outfall.	West Outfall.	Flushing Chamber.
	£ s. d.	£ s. d.	£ s. d.
Tate & Eastwood	2,933 16 0	2,404 12 0	1,407 0 0
C. Chamberlain	2,699 16 6	2,384 6 0	1,134 8 6
Johnson & Langley	2,681 17 1	2,058 17 7½	1,045 5 0
S. Lucas	2,678 4 5	2,174 18 2	—
Brown & Sons	2,653 16 7	2,137 4 5	1,129 16 0
Moss & Sons	2,643 7 10	2,115 2 6	1,099 13 0
Lock & Andrews	2,637 6 3	2,082 5 10	998 15 0
H. Weldon	2,626 18 6	2,112 7 1	1,148 0 0
J. Jackson	2,605 3 6	2,238 13 10	1,232 8 0
I. Philbrick	2,597 5 0	2,048 15 0	1,163 11 0
H. H. Barry	2,575 0 0	1,983 0 0	1,175 0 0
Holmes	2,559 9 4	1,941 19 3	1,109 10 0
Kettering Co-operative Builders	2,538 0 0	2,102 0 0	1,060 0 0
Johnson & Son	2,520 0 0	2,078 0 0	1,005 0 0
W. Cunliffe	2,487 8 0	1,941 18 7	997 18 6
Lewin & Son	2,425 0 0	*1,885 0 0	*914 0 0
F. Barlow*	2,423 0 0	1,991 0 0	943 0 0

LLANDRINDOD WELLS.—For the erection of two houses for Mr. J. H. Dover, Knighton. Mr. Peter Morris, architect, Llandrindod Wells :—

H. Gough	£1,320	H. Millward, Llandrindod Wells*	£1,000
Weale & Lloyd	1,214		
R. E. Davies	1,078		

LONDON.—For the erection of intermediate school buildings, Swaffield-road, for the Wandsworth and Clapham Guardians. Messrs. Lansdell & Harrison, architects, 65, Basinghall-street, E.C. Quantities by Mr. Frederick Hingston, Portland House, Basinghall-street, E.C. :—

Walter Wallis, Balham, S.W.* £15,997

[Fourteen tenders submitted.]

LONDON.—For asphalting Paradise-place, and other works, Hammersmith. Mr. H. Mair, C.E., Town Hall, Hammersmith :—

	Per sup. yard. s. d.
Nowell & Co.	12 3
Val de Travers Asphalte Paving Co.	12 0
Wimpey & Co., The Grove, Hammersmith, W.*	12 0
Brunswick Rock Asphalting Paving Co.	6 0

[Price does not include excavation or concreting.]

LONDON.—For engineering works in connexion with the new infirmary, Acton-lane, Willesden, N.W., for the Guardians of the Poor of Willesden Parish. Mr. A. Saxon Snell, architect. Quantities by Messrs. Northcroft, Son, & Neighbour :—

Summerscales & Sons, Ltd.	£11,436 0	Berry & Sons	£9,515 0
Potter & Sons	10,093 15	Rosser & Russell, Ltd., Hammersmith*	8,923 0
J. & F. May	9,870 0		

LONDON.—For alterations and decorations to No. 98, Gloucester-place, Portman-square, W., for Mr. G. R. FitzRoy Cole. Mr. George F. Sharpe, architect and surveyor, 57 and 58, Chancery-lane, W.C., and Hampton Hill, Middlesex :—

John Barker & Co., Ltd., High-street, Kensington .. £248

For Sanitary Work and Fittings.

R. P. Beattie, Westminster £115

MALDON (Essex).—For the execution of sewerage works, &c., Tollesbury, for the Rural District Council Mr. H. G. Keywood, C.E., Public Hall Chambers, Maldon :—

C. T. Thorn	£1,608 7 9	Burgoyne & Sons, 9, Wolsey-street, Ipswich*	£807 11 4
T. W. Pedrette	1,187 9 4		
G. Hayward	1,012 6 6		

[Engineer's estimate, £786 6s. 8d.]

MERTON.—For additions to Merton School. Mr. H. G. Quartermain, architect, Kingston-road, Merton. Quantities supplied by Messrs. J. Leaning & Sons :—

Gough & Co.	£5,200	Lorden & Sons	£4,844
Wall & Co.	5,123	Garratt & Sons	4,800
Smith & Son	4,937	Parsons & Townsend	4,647
Holliday & Greenwood	4,884	Burges & Sons	4,495

NEW BARNET.—For making-up Cat Hill Bridge, for East Barnet Valley Urban District Council. Mr. Henry York, surveyor, Station-road, New Barnet :—

Clift Ford	£1,639 0 0	G. Bell	£1,278 0 0
W. Butcher	1,505 0 0	Kitteringham	1,275 0 0
J. Dickson	1,415 0 0	R. Jackson	1,193 0 0
Myers, Gilson, & Rose	1,409 10 5	Willmott & Sons, Hornsey*	1,047 0 0
T. Adams	1,392 0 0		
Dinnie	1,338 0 0		

PENTRE.—For the erection of Police-court at Pentre, Rhondda, Wales. Messrs. Griffiths & Jones, architects, Tonypandy and Cardiff. Quantities by Mr. D. Pugh-Jones, 12, Glynrhondda-street, Cardiff :—

Morgans Bros., Ton Pentre, Rhondda* £3,335 12 8

PORTREATH.—For reseating and renovation of Wesleyan Chapel at Portreath. Mr. Sampson Hill, architect and surveyor, Redruth :—

W. C. Hodge	£299 12	J. Roberts	£268 9
T. Willoughby	270 0	W. H. Moyle, Chacewater*	250 0

PRESTON (Lancs.).—For the execution of paving works, Fylde-road and Water-lane :—

Richard Lomax, Lostock Hall, near Preston (labour only) £855 6 9

RUDGWICK (Sussex).—For the erection of a new residence at Snell's Farm, Rudgwick, for Mr. Douglas Arden. Mr. C. H. Burstow, architect, 6, West-street, Horsham, Sussex:—

Hillman & Murrell	£975	Hull & Redford	£899
W. Street	970	Rowland Bros., Horsham‡	893
Lindfield & Son	940		

‡ Lowest tender accepted after making certain deductions.

SWANSEA.—For the erection of infirmary at workhouse, for the Guardians. Messrs. Wills & Williams, architects, Wind-street, Swansea. Quantities by Mr. Wm. David, 97, Gorse-lane, Swansea :—

Lloyd Bros., Argyle-yard, Argyle-street, Swansea £13,681 10 7

TADWORTH.—For the erection of a detached residence at Tadworth, Surrey, for Mr. Peter Chalwin. Mr. George T. Sharpe, architect and surveyor, 57 and 58, Chancery-lane, W.C., and Hampton Hill, Middlesex :—

J. T. Bassano, Bloomsbury, W.C. £1,050

See also page 545.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be delivered
Laying out Recreation Ground	Gillingham (Kent) U.D.C.	20*l.*, 10*l.* and 5*l.*	Jan. 1
Water Supply Works	North Dublin R.D.C.	50*l*	Jan. 20
*House of Two Storys	Battersea Borough Council	50*l.*	Jan. 31
*House of Two Storys Self-contained Tenements	do.	25*l.*	do.
*House of Three Storys Self-contained Tenements	do.	10*l.*	do.
*Monument as Memorial to Her late Majesty	I. of W. Queen Vic. Mem. Comte..	25*l.*	do.
Dwellings, Alexandra Park	Glasgow Corporation	100*l.* 50*l.* and 25*l.*	Feb. 1
*New Buildings at Langho, near Blackburn	Chorlton, &c., Jt. Asylums Com..	200*l.*, 150*l.* and 100*l.*	April 4

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
*Erection of Show Yard, Leeds	Yorks Agricultural Society	Society's Office, Blake-street, York	Dec. 16
*Best Glazed Stoneware Pipes	The Building Supply	Secretary, The Building Supply, King's Cross, W.C.	do.
Schools, Chaucer-road	Fleetwood (Lancs) School Board..	T. G. Lumb, Architect, 26, Birley-street, Blackpool	Dec. 17
Lift Station, East Hill	Hastings Corporation	P. H. Palmer, Civil Engineer, Town Hall, Hastings	do.
Restaurant, Marine Parade, Great Yarmouth	Messrs. J. & W. F. Goode	C. G. Baker, Architect, Town Hall Chambers, Great Yarmouth .	do.
Three Purifiers at Gasworks	Stourbridge Gas Committee	W. North, Engineer, Gasworks, Stourbridge	do.
Two Cottages, Hebden, near Grassington, Yorks	.....	J. Hartley, Architect, Skipton	do.
Road Works, Glengormley	Belfast R.D.C.	Young & Mackenzie, Engineers, Belfast	do.
Widening Railway, Entwistle, near Bolton	L. & Y. Railway Company	Engineer, Hunt's Bank, Manchester	do.
Firebricks, &c.	Chorley Corporation	J. W. Allen, Gas Engineer, Town Hall, Chorley	do.
Alterations to Ashburton House, Beckenham-rd. Penge	.....	The Secretary, 76, Beckenham-road, S.E.	do.
14 Shops, Kirkgate, Wakefield	.....	G. Bolshaw, Architect, 189, Lord-street, Southport	do.
Hotel, Rose Hill, Rawmarsh	.....	H. L. Tacon, Architect, 11, Westgate, Rotherham	do.
Eight Houses, Rawmarsh	Messrs. Whitworth, Son, & Nephew	do.	do.
Additions to Schools	Gosberton (Lincs.) School Board	R. H. H. Hand, 6, Double-street, Spalding	do.
School and Boundary Walls, Honicknowle	St. Budeaux (Cornwall) School Bd.	T. R. Kitsel, Architect, 1, George-street, Plymouth	do.
*Wrought-iron and Wood Fencing	Ilkeston Town Council	Borough Surveyor, Town Hall, Ilkeston	Dec. 18
*River Wall and Elevated Track for Crane	Hammersmith Council	Borough Surveyor, Town Hall, Hammersmith	do.
Engine Shed, &c., Neville Hill, Leeds	North-Eastern Railway Company	W. Bell, Architect, York	do.
Police Station, Swinefleet, near Goole	West Riding County Council	J. V. Edwards, County surveyor, Wakefield	do.
Sewers, &c., Longley Norland	Halifax R.D.C.	F. Gordon, Surveyor, Clifton, Brighouse	do.
Sewerage Works, Senny Bridge	Brecknock R.D.C.	B. L. Pritchard, Surveyor, 8, Castle-street, Brecon	do.
Drainage Works	Arbroath (N.B.) Council	W. Stewart, Burgh Surveyor, Arbroath	do.
Street Works, Market-place and Holly-walk	Enfield U.D.C.	R. Collins, Surveyor, Court House, Enfield	do.
Sewering, &c., Parkfield-place	Birkenhead Corporation	C. Brownridge, Civil Engineer, Town Hall, Birkenhead	do.
Six Houses, Moldgrew, Huddersfield	.....	J. Berry, Architect, 4, Market-place, Huddersfield	do.
Alterations to Dispensary, Blackrock, Ireland	Rathdown Guardians	P. F. Comber, Civil Engineer, 19, Lower Leeson-street, Dublin ..	do.
Additions to Schools, Spon-street	Coventry School Board	G. & T. Steane, Architects, 22, Little Park-street, Coventry	do.
Alterations at Workhouse	Southwell Guardians	Mr. Cottam, Surveyor, Church-street, Southwell	Dec. 19
Laying Water Pipes (9½ miles)	Axbridge (Somerset) U.R.D.C.	A. Powell, Civil Engineer, 3, Unity-street, Bristol	do.
Firebricks, &c.	Leeds Corporation	R. H. Townsley, Gas Offices, Leeds	do.
Additions to Sanatorium	Gravesend Town Council	Borough Surveyor, Town Hall, Gravesend	do.
Store Premises, Coundon	Bishop Auckland Co-op. Soc., Ltd	F. H. Livesay, Architect, 107, Newgate-street, Bishop Auckland	do.
Electricity Works, Belfast	.....	Engineer, Electricity Station, East Bridge-street, Belfast	do.
Paving Works, &c.	Walthamstow U.D.C.	G. W. Holmes, Civil Engineer, Town Hall, Walthamstow	Dec. 20
Additional Wing at the Ness, Shaldon	.....	Ellis, Son, & Bowden, Surveyors, Bedford Chambers, Exeter	do.
Additions to Premises, Tame-street, Ancoats	Manchester Guardians	A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester	do.
Sewers, &c., Mevagissey, Cornwall	St. Austell R.D.C.	T. H. Andrew, Engineer, 1, Trevarrick-villas, St. Austell	Dec. 21
Sewerage Works, Otley-road	Harrogate Corporation	F. Bagshaw, Borough Engineer, Municipal Offices, Harrogate	do.
Hospital, New Tredegar, Mon.	Bedwellty U.D.C.	J. A. Shepard, Town Hall, Tredegar	do.
*Corrugated Iron Hospital	Bedwellty U.D.C.	.....	do.
*Granite Kerb and Channel	Brighton Council	Borough Engineer, Town Hall, Brighton	Dec. 23
School	Chatteris (Cambs.) School Board...	W. Wren, Surveyor, Mount Pleasant, Cambridge	do.
Street Works, Boston-avenue, and others	Southend Corporation	A. Fidler, Civil Engineer, Town Hall, Southend	do.
Wood Paving Blocks, and Stone Paving	do.	do.	do.
House, &c., Harrogate	.....	Adkin & Hill, Architects, Bradford	do.
Bridge, Cole Park Estate, Twickenham	.....	G. F. Sharpe, Architect, 57, Chancery-lane, W.C.	do.
Mason's Shed, Little Newton-street, Ancoats	Manchester Corporation	City Surveyor, Town Hall, Manchester	do.
Well Sinking at Workhouse	Lanchester Guardians	W. H. Ritson, Lanchester	Dec. 24
*Postmen's Sorting Office, New Cross-road	Commissioners of H.M.Works, &c.	J. Wager, H. M. Office of Works, Storey's Gate, S.W.	Dec. 30
Pavilions at Workhouse, Erdington	Aston Guardians	C. Whitwell & Son, Architects, 23, Temple-row, Birmingham	do.
Portland Cement (5,000 tons) Rigby-road	Blackpool Corporation	J. S. Brodie, Civil Engineer, Town Hall, Blackpool	Dec. 31
*Two Filter Beds at Sewage Works	Kingston-on-Thames Corporation	Borough Surveyor, Clattern House, Kingston-on-Thames	Jan. 1
Water Supply Works	Bakewell R.D.C.	Sterling & Swann, Engineers, Town Hall, Chapel-en-le-Frith	Jan. 3
Extension of Seacroft Hospital	Leeds Corporation	City Engineer, Municipal-buildings, Leeds	Jan. 4
Electricity Plant	Nantwich (Cheshire) U.D.C.	G. R. Peers, 39, Victoria-street, Westminster, S.W.	Jan. 6
*Widening London Bridge	Corporation of London	City Surveyor, Guildhall	Feb. 17
*Library Buildings, Southampton	The Committee	Secretary, Public Library, Southampton	No date
*Cottage Hospital, Southwold	.....	C. N. Cubitt, Architect, Brentwood, Essex	do.
*Erection of Bungalow, Bognor	.....	Hall, Cooper & Davis, Architects, 10, Gray's Inn-square, W.C	do.
Two Villas, Greenhill Park Estate, Evesham	.....	F. Foster, Architect, Coventry	do.
Chimney, Widnes	.....	S. P. Bidder & Co., 45, Blackfriars-street, Blackburn	do.
Factories, &c., Bridge Mills, Long Eaton	.....	J. Sheldon, Architect, Darley House, Long Eaton	do.
Two Shops, Heygate-avenue, Southend	.....	Greenhalgh & Brockbank, Architects, Bank-chambers, Southend	do.
Four Cottages, Shawford, near Winchester	.....	Colson & Co., Architects, 45, Jewry-street, Winchester	do.
*Road, Appin House, Oban	.....	Hosack & Sutherland, Royal Bank, Oban	do.
Street Works, Hill-street, Netherton	.....	W. Onslow, 62, Church-road, Onslow	do.
Additions to Schools, Mill-hill, Blackburn	.....	Stones & Stones, Architects, 10, Richmond-terrace, Blackburn ..	do.
Six Houses, Jubilee-street, Darwen	.....	Woods & Thackeray, Architects, Darwen, Lancs	do.
Two Houses, Hesse-street, Darwen, Lancs	.....	do.	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
Assistant Building Inspector	Salford Corporation	120*l.*	Dec. 19
Clerk of Works	Rochford Union	3*l.* 3*s.* per week	Dec. 23

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp. iv. vi. viii. x. & xix. Public Appointments, pp. xvii. & xix.

TWICKENHAM.—For the erection of three detached houses on the Cole Park Estate, Twickenham. Mr. George F. Sharpe, architect and surveyor, 57 and 58, Chancery-lane, W.C., and Hampton Hill, Middlesex :—

S. Wright, St. Margaret's..... £2 250

TWICKENHAM.—For the erection of three detached houses on the Cole Park Estate, Twickenham. Mr. George F. Sharpe, architect and surveyor, 57 and 58, Chancery-lane, W.C., and Hampton Hill, Middlesex :—

J. Kearley, Teddington..... £2,315

TWICKENHAM.—For the construction of new roads and sewers, with manholes and gullies, on the Cole Park Estate, Twickenham, for Mr. G. R. FitzRoy Cole :—

Brougham, Horstcroft, & Co.....	£455	0 0	Lawrence & Thacker	£288	2 11
S. Wright.....	375	0 0	Filkin & Watson	287	0 0
Thos. Adams ..	357	18 6	R. & W. Swaker	285	12 0
Higby & Robson	330	6 4	J. W. Dean	268	14 3
J. Willis	310	0 0	Steven Kavanagh	263	0 0
Wimpey & Co...	307	0 0	Bentham & Co.	259	0 0
Atkins & Son ..	306	0 0	W. H. Wheeler, Blackfriars-road, S.E.* ..	235	0 0
J. Kearley	298	10 0			

* Accepted, with further extension, on schedule of prices.

UXBRIDGE.—For the execution of sewage works Cowley, for the Rural District Council. Mr. J. F. Stow, engineer, Corn Exchange, Uxbridge :—

A. Hewens, Hayes* ..... Schedule of price .

WAKEFIELD.—For the erection of store premises, Lofthouse, for the Leeds Industrial Co-operative Society, Limited :—

Building.—Binks Bros., Coach-road, Outwood, Wakefield £510 0

Joinery.—Blakeley & Thackeray, Upper Wortley, Leeds 321 0

Plastering.—John Platts, Saville-street, Wakefield..... 18 19

Slating.—Watson & Worsnop, Whitehall-road, Leeds..... 39 0

Steel Joists.

Per ton.

Walter Scott, Ltd., Leeds Steel Works, Leeds £6 15

Compound Steel Girders.

Walter Scott, Ltd., Leeds Steel Works, Leeds..... 9 5

WEST HAM.—For the erection of thirty-six double tenement houses, Invicta and Rendel-roads, Canning Town, for the West Ham Corporation. Mr. J. G. Morley, Borough Engineer, Town Hall, West Ham, E. :—

Spencer, Santo, & Co.	£21,000	0 0	Shelbourne & Co.	£16,542	0 0
Calnan & Son	20,063	0 0	Gregar & Son	15,930	0 0
W. Irwin....	19,215	18 11	Barker & Co.	15,826	0 0
H. L. Holloway	18,370	0 0	Haines & Co.	14,656	0 0
Martin Wells & Co.	17,999	0 0	Herbert Bros.	14,247	0 0
W. E. Davey	17,275	0 0	G. Wise, Works Manager*	13,955	0 0
Hardy Bros.	16,565	0 0			

WILLITON (Somerset).—For the execution of drainage works at workhouse, for the Guardians. Mr. T. H. Andrew, surveyor, Williton :—

H. W. Pollard ..	£1,199	0	Chibbett & Sons, Williton, Somerset* £994 9
Morse Bros.	1,062	15	

LONDON SCHOOL BOARD TENDERS.

At the last meeting of the London School Board, the Works Committee submitted the following lists of tenders. Mr. T. J. Bailey is the Board's Architect :—

** Recommended for acceptance.*

ARISTOTLE-ROAD SCHOOL.—Accommodation—Boys', 226 ; girls', 226 ; total, 452. Senior Mixed School on two stories. Hall—Boys' and girls', 60 ft. by 29 ft. 7½ in. Classrooms—Boys' and girls', 50, 50, 48, 48, 48, 48, 40, 40, 40, 40. Schoolkeeper's house. Gymnasium, 1,800 ft. area. Heating by low-pressure hot-water apparatus :—

Holloway Bros.	£16,618	+ †	£339
F. and H. F. Higgs	16,247	+	181
Lathey Bros.	16,217	+	324
W. H. Lorden & Son	15,444	+	222
J. Marsland & Sons	15,425	+	180
Treasure & Son	15,274	+	190
C. Cox	15,089	+	219
J. Smith & Sons, Ltd.	15,035	+	200
Spencer, Santo, & Co., Ltd. ..	15,014	+	170
W. Johnson & Co., Ltd.	14,700	+	155
E. Triggs	14,536	+	193
Holliday & Greenwood, Ltd...	14,535	+	204
J. and M. Patrick	14,359	+	212
J. Garrett & Son *.....	14,342	+	334

† If walls of classrooms and halls are plastered add.

BROADWATER-ROAD SITE.—Providing and erecting three additional iron buildings and appurtenances :—

Hill & Smith	£2,700	H. Harbrow	£2,350
T. Cruwys	2,560	J. McManus	2,290
Humphreys, Ltd. ..	2,438	Bain & Co.‡.....	2,040
Croggon & Co., Ltd.	2,375	Rowell & Co.*.....	1,920

‡ This firm has not included provisional sums in the tender.

ELM-COURT.—Providing and setting new range and feed-cistern in kitchen and gas-cooking-stove in scullery ; laying on hot-water services to baths, officers' lavatory basins, slop-sink in lavatory on first floor, and to scullery sink ; also providing and fixing boiler in fireplace of scullery, including builders' work :—

J. Esson	£178	0	Duffield & Sons .. £129 10
Cannon & Sons....	144	0	Paragon Heating Co..... 119 0
Wippell Bros. & Row	143	5	J. & F. May* 115 0
Wenham & Waters, Ltd.	129	17	

GAINSBOROUGH-ROAD.—Supplying and fixing three large No. 24 "Railway" pattern stoves :—

J. Esson.....	£54	0 0	G. & E. Bradley £31 10 0
Wontner-Smith, Gray, & Co. ..	31	11 6	Defries & Sons, Ltd.* 29 0 0

HACKFORD-ROAD (Boys').—Altering position of an existing partition and providing and fixing a glazed partition to re-divide classrooms C and D into three rooms ; also providing Tobin tubes :—

Lathey Bros.	£149	W. V. Goad	£117
Garrett & Son.....	125	Rice & Son	113
Maxwell Bros., Ltd. ..	125	E. Triggs*	105

NORTH END-ROAD (Boys').—Altering position of an existing partition and providing and fixing an additional glazed partition to re-divide classrooms C and D into three rooms ; also altering classroom doorway, &c., in connexion therewith :—

Williams & Sons ..	£245	0	General Builders, Ltd. £159 0
W. R. & A. Hide..	190	0	Chinchen & Co.... 158 0
G. H. Sealey.....	183	0	S. Polden* 149 15
W. Hammond	176	0	

The interiors of the following schools will be cleaned between December 14, 1901, and January 4, 1902 :—

ASHBURNHAM :—

T. Cruwys	£485	W. Hammond.....	£315
O. Craske.....	325	C. Gurling*	279

§BEN JONSON (Boys', Girls', and Infants').—Cleaning interior and painting exterior :—

A. E. Symes	£865	0	J. T. Robey £700 0
W. Hornett	810	17	Barrett & Power*.. 670 0
Stevens Bros.....	730	0	

BROAD-STREET :—

A. W. Derby	£406	J. T. Robey.....	£314
Johnson & Co.	400	Corfield & Co.*	225

BURGHLEY-ROAD (Old Portion) :—

G. Kirby.....	£438	0	Stevens Bros.....£394 0
Wall & Co.	434	0	Chinchen & Co. .. 379 10
T. Cruwys	420	10	Marchant & Hirst* 369 0

CAYLEY-STREET :—

A. W. Derby	£261	0	Gibb & Co. £231 0
Dolman & Co.	239	10	J. T. Robey 227 5
A. E. Symes	235	0	Haydon & Sons* .. 190 10

CHAUCER :—

J. Watkins.....	£525	0	H. Line £270 0
Johnson & Co.	361	0	H. J. Williams 256 16
W. Downs	287	0	E. Triggs* 220 0
Sayer & Son	282	0	

COLLS-ROAD :—

G. Kemp	£298	W. V. Goad.....	£260
Rice & Son	281	H. Groves.....	253
H. Line	265	J. & C. Bowyer*.....	252

GLOUCESTER-ROAD :—

W. Sayer & Son.....	£392	H. Line.....	£306
Rice & Son	349	J. & C. Bowyer	298
H. Groves	329	Black & Son*	278
Maxwell Bros., Ltd...	329		

KEETON'S-ROAD :—

W. Banks.....	£425	Sayer & Son	£297
Johnson & Co.	403	E. Triggs*	290
H. J. Williams	356		

KNAPP-ROAD :—

A. J. Sheffield	£397	15	Dolman & Co. £270 0
Gibb & Co.	379	0	J. T. Robey 256 0
T. H. Jackson	354	10	Corfield & Co.*.... 228 0
Barrett & Power ..	298	0	

LILLIE-ROAD (all Buildings) :—

Spencer, Santo, & Co. Ltd.	£345	C. Gurling	£289
J. & M. Patrick.....	314	W. Hammond*	289

MAWBEY-ROAD (Old Portion) :—

Johnson & Co.	£316	0 0	Sayer & Son.... £150 0 0
W. Banks.....	187	15 6	H. J. Williams* 114 15 0
W. J. Howie ..	163	0 0	

LONDON.—For the supply of gravel for parks for the London County Council :—

—	Battersea Park.	Chelsea Embankment Gardens.	Brockwell Park.	Clapham Common.	Kennington Park.	Myatt's Fields.	Wandsworth Common.	Dulwich Park.	Ladywell Recreation Ground.	Manor House Gardens.	Peckham Rye Park.	Telegraph Hill.	Pimlico Garden.	Hampstead Heath, &c.	Ravenscourt Park.	Waterlow Park.	Bethnal Green Gardens.	Clissold Park.	Highbury Fields.	Mill Fields.	Meath Gardens.	Victoria Park.	Churchyards in the N.E. District.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Boyer & Sons	8 0	8 0	—	—	—	—	—	—	—	—	—	—	7 6	8 0	7 6	—	—	—	—	—	—	—	—
H. W. Budd (Croydon gravel)	—	—	—	—	—	—	—	—	—	10 6	—	—	—	—	—	—	—	—	—	—	—	—	—
Do. (Crayford gravel)	—	—	—	—	—	—	—	—	—	6 6	—	—	—	—	—	—	—	—	—	—	—	—	—
J. E. Clark	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 6	7 6	6 0	6 3	7 9	7 6	8 0	7 9
Crayford Land and Brick Co.	6 9	7 6	6 9	6 9	6 9	6 9	7 0	7 0	6 9	6 6	6 9	6 9	—	—	—	—	—	—	—	—	—	—	—
Crayford Sand and Gravel Pits Co.	6 4	6 10	6 4	6 4	6 4	6 1	6 10	6 4	6 2	5 3	6 4	6 10	—	—	—	—	9 4	9 4	—	—	9 4	—	—
Fry Bros. (Faversham gravel)	—	—	11 0	11 0	10 0	9 6	—	10 0	8 6	8 6	9 6	9 0	—	—	—	—	11 0	—	—	—	—	—	—
Do. (Dartford gravel)	—	—	10 6	10 6	9 6	9 0	—	9 6	8 0	8 c	9 0	8 6	—	—	—	—	10 6	—	—	—	—	—	—
J. Guyatt	7 9	8 6	7 3	7 0	8 6	8 6	7 0	8 6	—	—	8 6	9 0	8 6	—	—	—	—	—	—	—	—	—	—
G. Neal	7 6	8 0	8 6	7 6	8 6	9 6	7 0	9 6	—	—	—	—	8 6	—	8 6	—	—	—	—	—	—	—	—
D. R. Paterson	—	—	—	—	—	—	—	—	—	—	—	—	—	8 3	—	9 6	—	8 3	8 0	—	—	—	—
E. Smallwood	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7 0	7 0	—	—	—	—
L. Sommerfeld (Greenhithe gravel)	7 9	10 0	10 6	10 6	10 0	11 6	10 6	11 0	11 0	12 0	11 0	11 0	11 0	—	10 0	—	—	—	—	—	—	—	—
Do. (Ware gravel)	—	—	—	—	—	—	—	—	—	—	—	—	—	8 9	—	9 9	9 9	9 9	9 9	9 0	9 9	8 6	10 0
Weston & Sons	6 9	7 7	9 6	7 10	7 10	7 9	7 4	7 9	7 2	7 2	7 9	6 11	7 7	—	7 4	—	9 4	—	—	9 4	9 4	9 4	9 4

[On the recommendation of the Parks and Open Spaces Committee of the Council it was agreed, "That, subject to the usual inquiries, the tender of the Crayford Sand and Gravel Pits Co. to supply gravel to the places south of the Thames at the prices set out in the above table, the tenders of Messrs. Boyer & Sons and Messrs. J. Weston & Sons as regards Pimlico Garden and Ravenscourt Park respectively, and the tender of Mr. J. E. Clark as regards Waterlow Park, Bethnal Green Gardens, Clissold Park, Highbury Fields, Mill Fields, Meath Gardens, Victoria Park, and the various churchyards in the north-east district be accepted." Inasmuch as the price quoted in the lowest tender for the supply of gravel at Hampstead Heath is rather high, the Committee propose to invite prices afresh for the supply of gravel to this place.]

[See also next page.

BRUSHES, &c.—Supply of the following articles, on running contracts :—

Contractors.	Sash Tools. No. 3.		Sash Tools. No. 4.		Sash Tools. No. 5.		Sash Tools. No. 6.	
	Hamilton's	Kent's	Hamilton's	Kent's	Hamilton's	Kent's	Hamilton's	Kent's
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Atkins, Bussell & Co. .. Per doz.	4 5	—	5 6	—	8 0	—	10 0	—
T. & W. Farmiloe, Ltd. ,,	3 9	3 9	4 9	4 9	7 2	7 2	8 10	8 10
Hamilton & Co.‡ .... ,,	3 6	—	4 4	—	6 4	—	8 0	—
Kent & Sons, Ltd. .... ,,	—	*3 6	—	*4 3	—	*6 6	—	*8 0
Nicholls & Clarke, Ltd. ,,	4 3	3 9	5 0	4 9	7 6	7 3	9 6	8 9

Contractors.	Sash Tools. No 7.		Sash Tools. No. 12.		Brushes. 8-o ground.	
	Hamilton's.	Kent's.	Hamilton's.	Kent's.	Hamilton's.	Kent's.
	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Atkins, Bussell & Co. ....per dozen	13 6	—	1 15 0	—	3 8 0	—
T. & W. Farmiloe, Ltd..... ,,	12 0	12 0	1 10 0	1 10 0	3 14 6	3 14 6
Hamilton & Co.‡..... ,,	10 8	—	1 8 0	—	3 1 6	—
Kent & Sons, Ltd. ..... ,,	—	*10 9	—	*1 6 9	—	*3 2 0
Nicholls & Clarke, Ltd..... ,,	12 9	12 0	1 13 6	1 9 6	3 8 9	3 8 9

‡ This firm has also submitted the following quotation for the "Atlas" Brand of brushes :—No. 3, 3s. ; No. 4, 3s. 8d. ; No. 5, 4s. 10d. ; No. 6, 6s. ; No. 7, 7s. 8d. ; No. 12, £1 ; and 8-o ground, £2 9s. 6d. per dozen.

MUNSTER-ROAD :—
Lathey Bros. ..... £265 | W. Hornett £239
J. & M. Patrick .... 265 | W. Hammond* 235

NAPIER-STREET :—
G. Barker..... £387 | McCormick & Sons* .. £353

QUEEN'S HEAD-STREET :—
Dearing & Son ..... £295 | Grover & Son £267
C. & W. Hunnings .. 273 | McCormick & Sons*.. 246

SCARSDALE-ROAD :—
W. V. Good ..... £295 0 | Maxwell Bros., Ltd. £247 0
Lathey Bros..... 293 3 | E. Triggs 242 0
H. J. Williams*..... £225 0 0

SHERBROOKE-ROAD (all Buildings) :—
T. Cruwys..... £442 0 | C. Gurling* £295 10
W. Hammond .... 323 0 |

§SURREY-LANE.—Cleaning interior of school and painting interior and exterior of manual training centre, laboratory, and art-room :—
W. Hornett ..... £588 0 | Bulled & Co..... £419 0
Rice & Son ..... 449 0 | E. Triggs 400 0
Bristow & Eatwell 445 0 | Maxwell Bros., Ltd.* 364 15

TURIN-STREET :—
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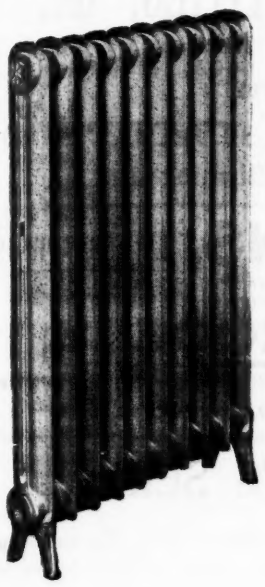

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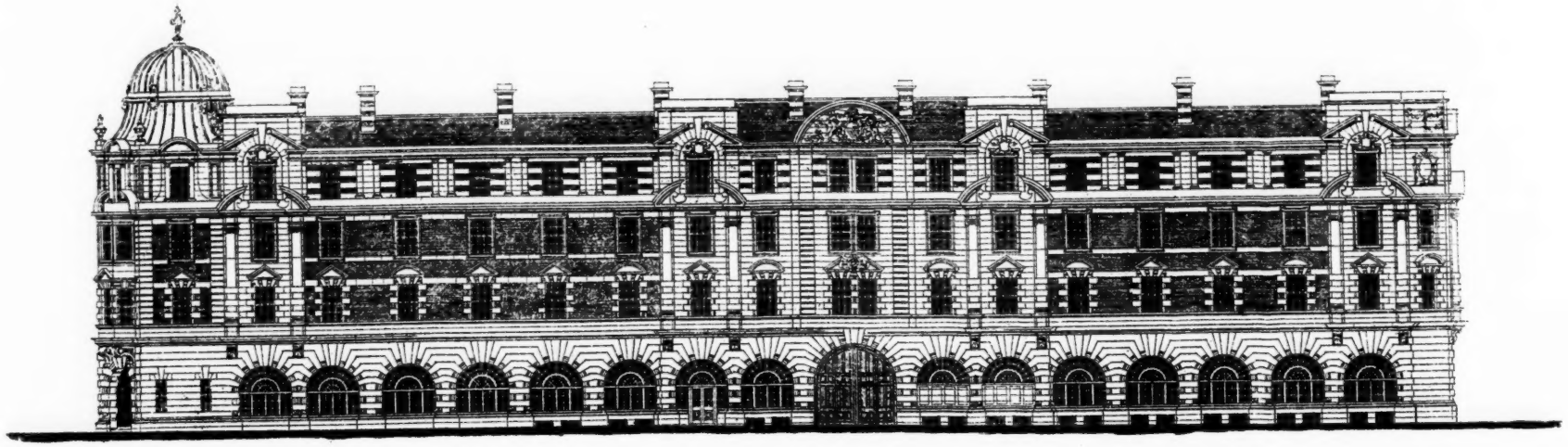

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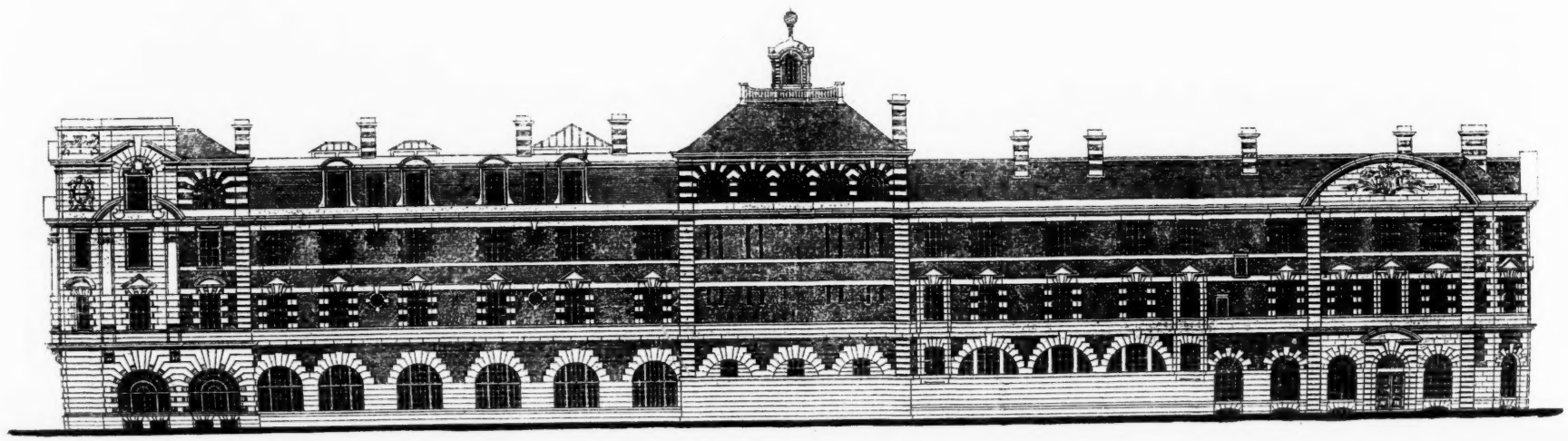

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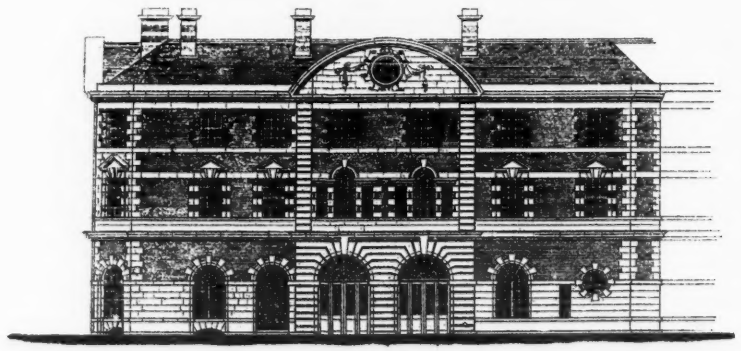

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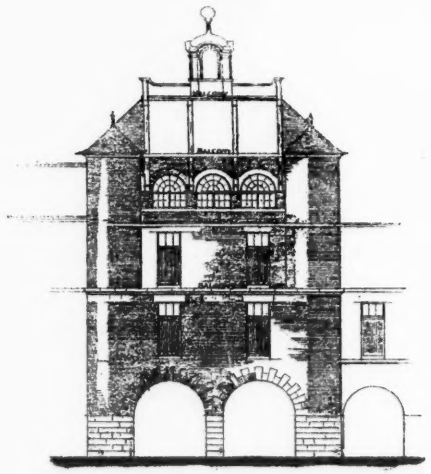

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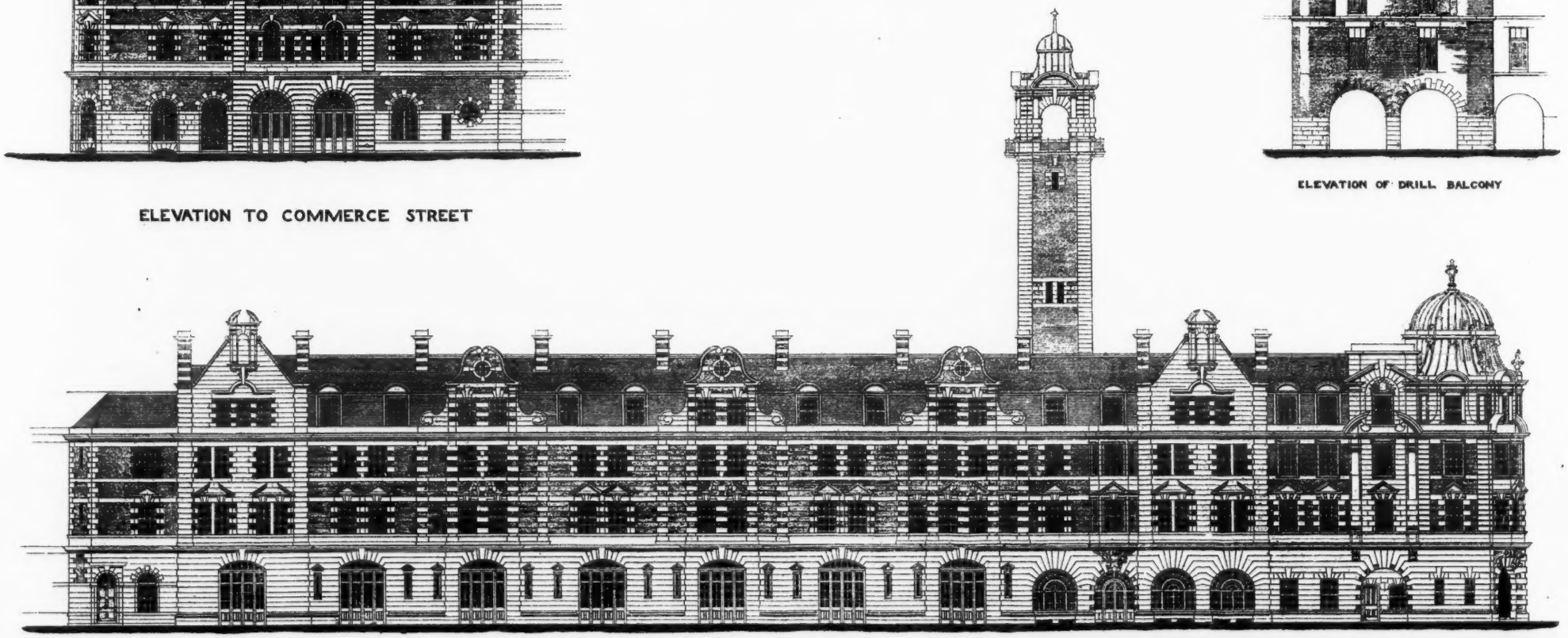

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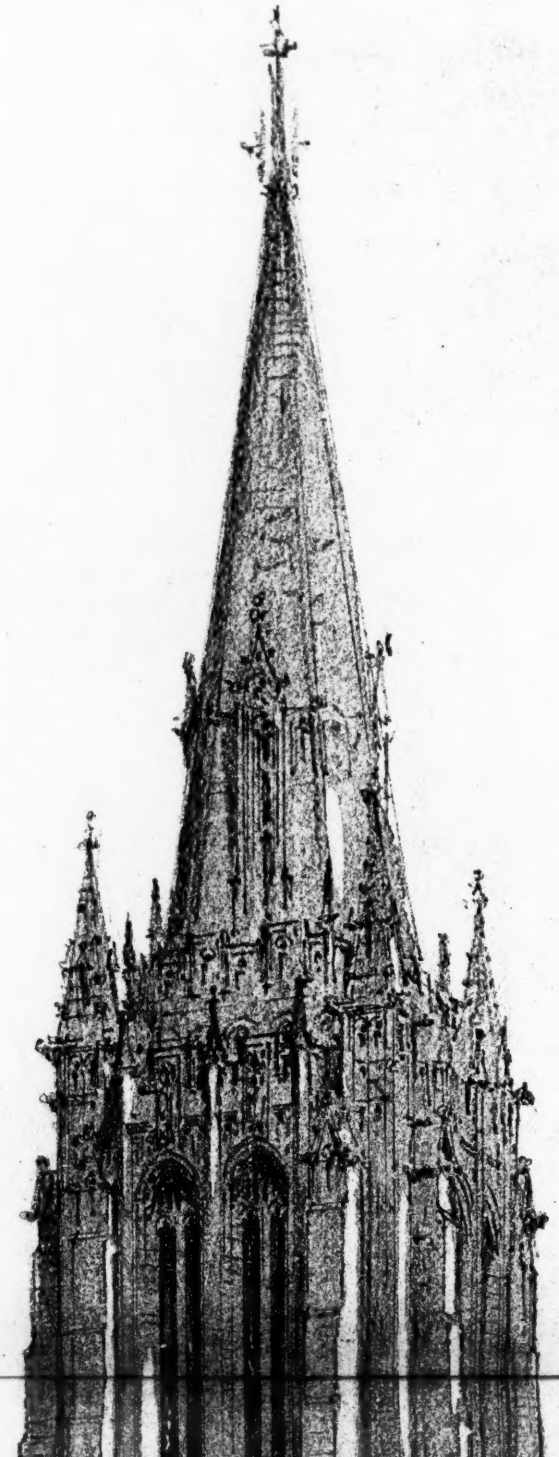

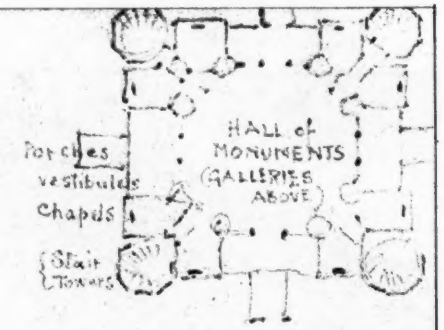

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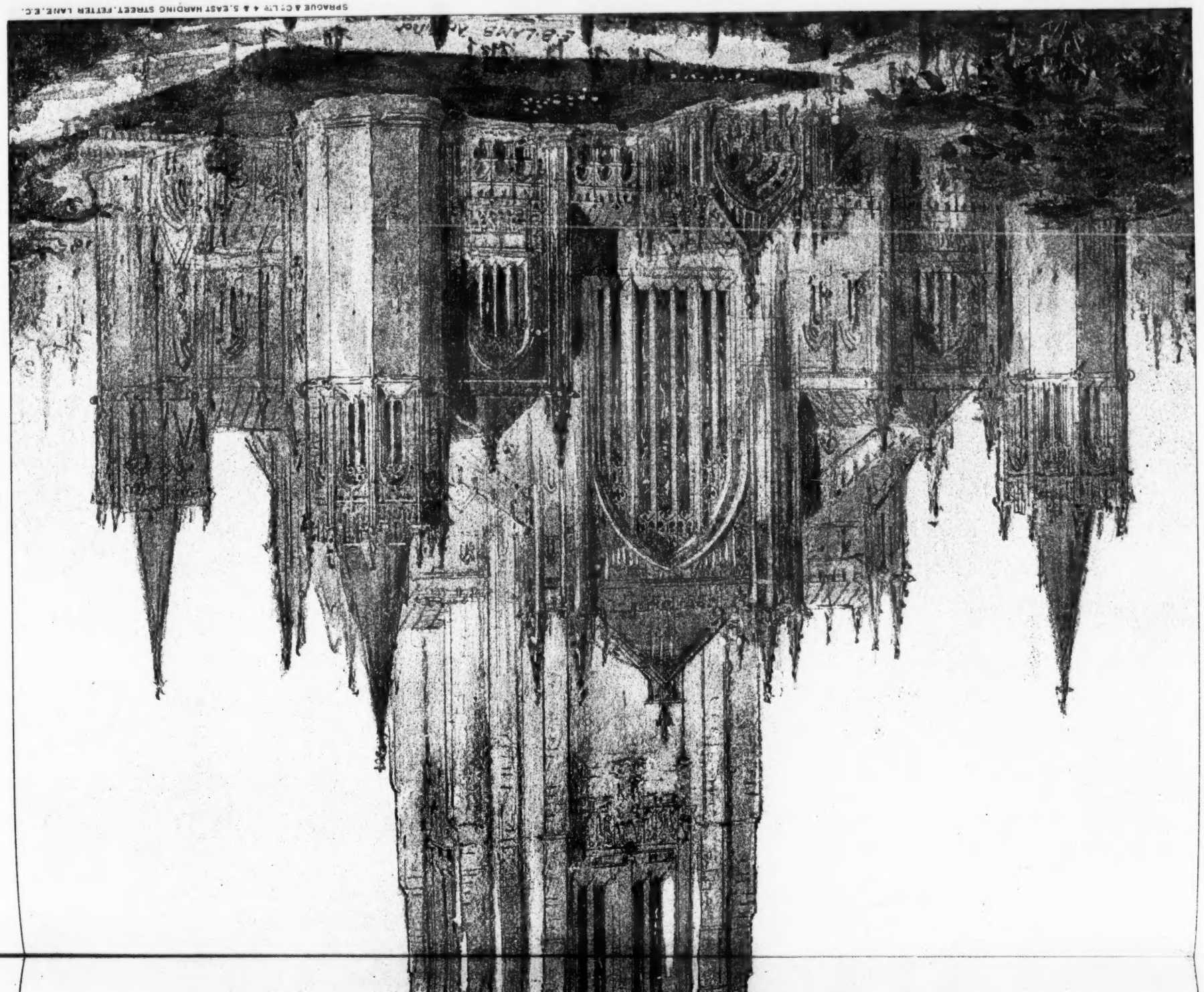

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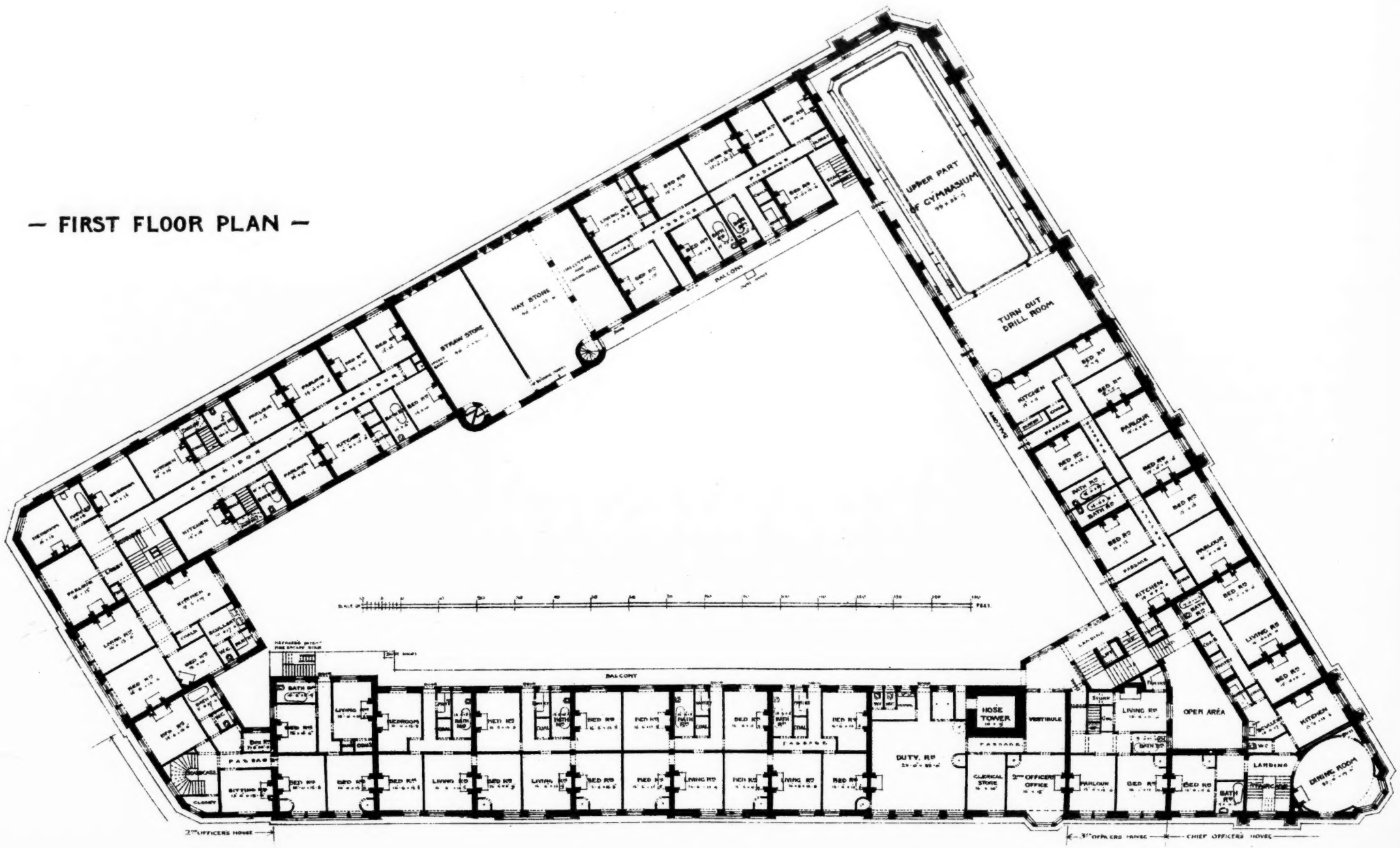

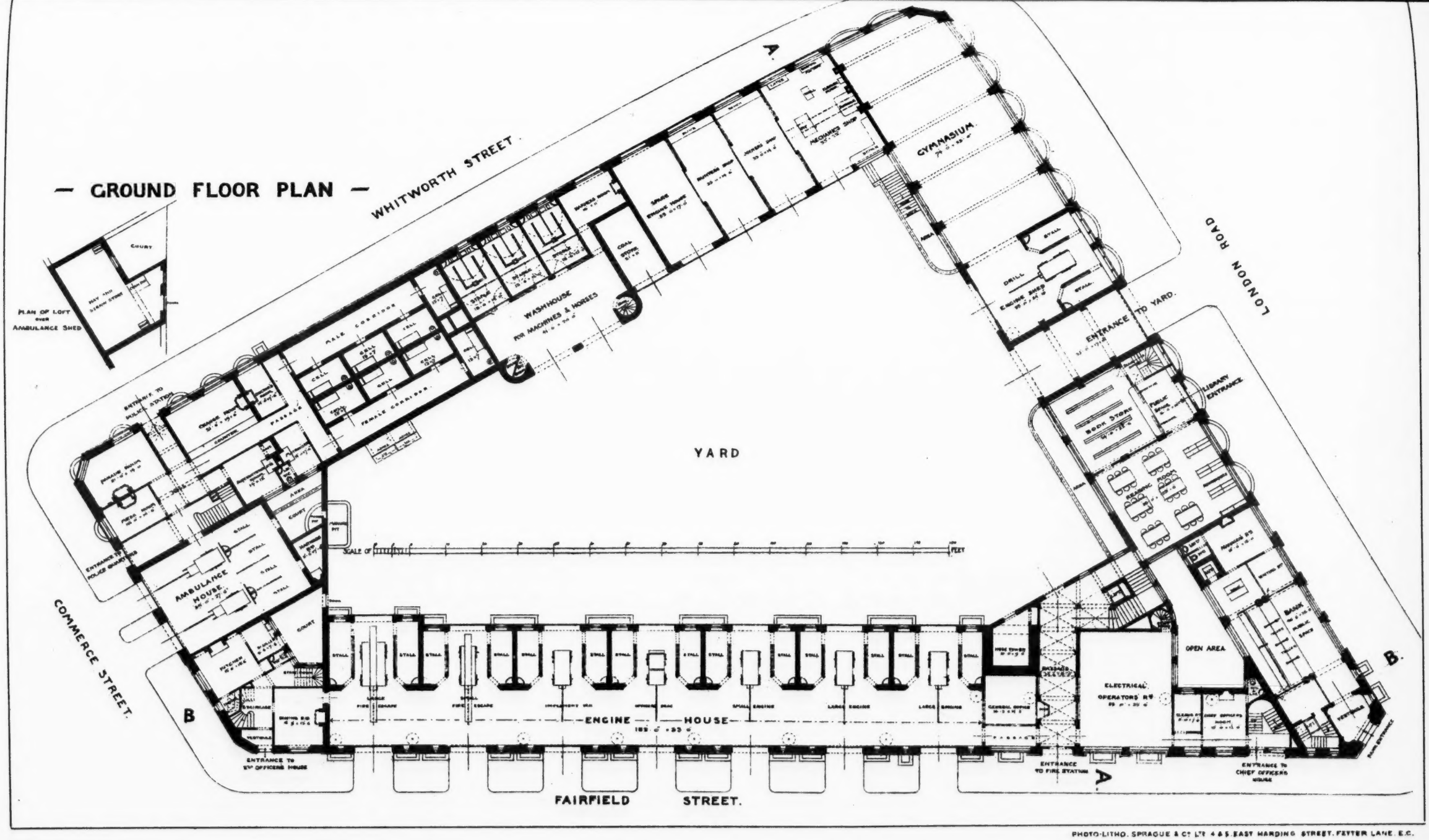

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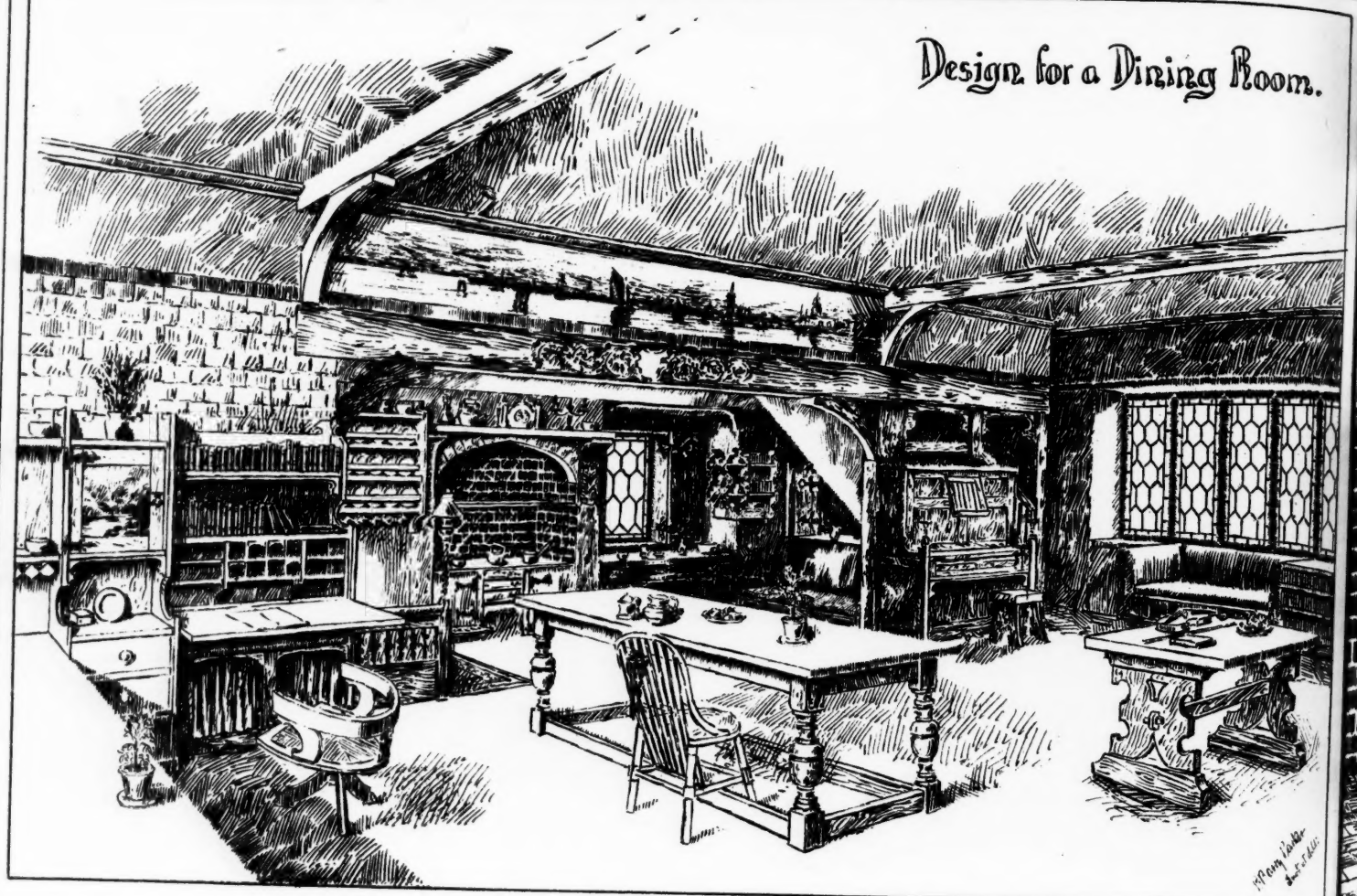
MANCHESTER FIRE STATION COMPETITION: SECOND PREMIATED DESIGN.—By Mr. G. Watson.

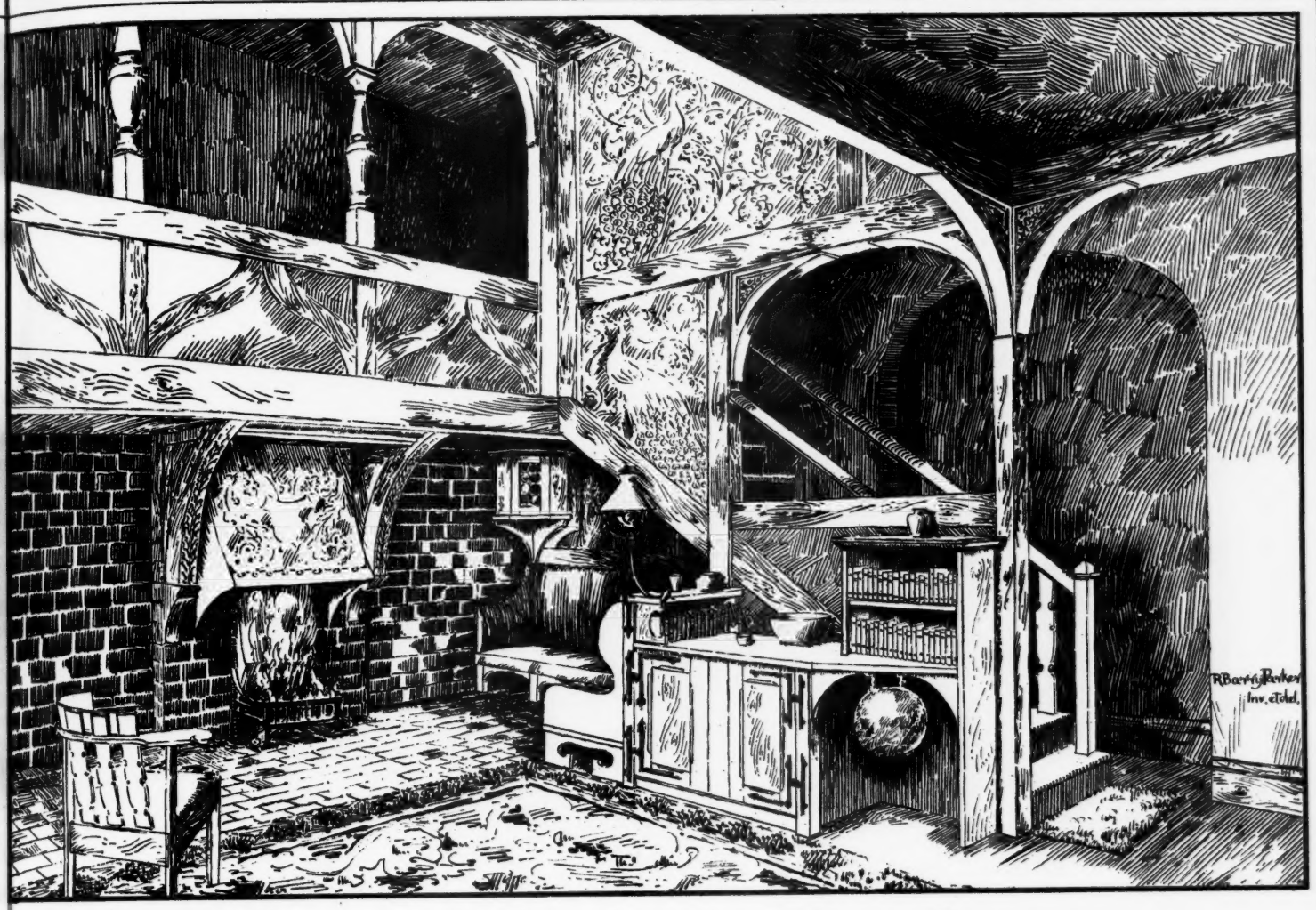
PLANS.

Design for a Dining Room.

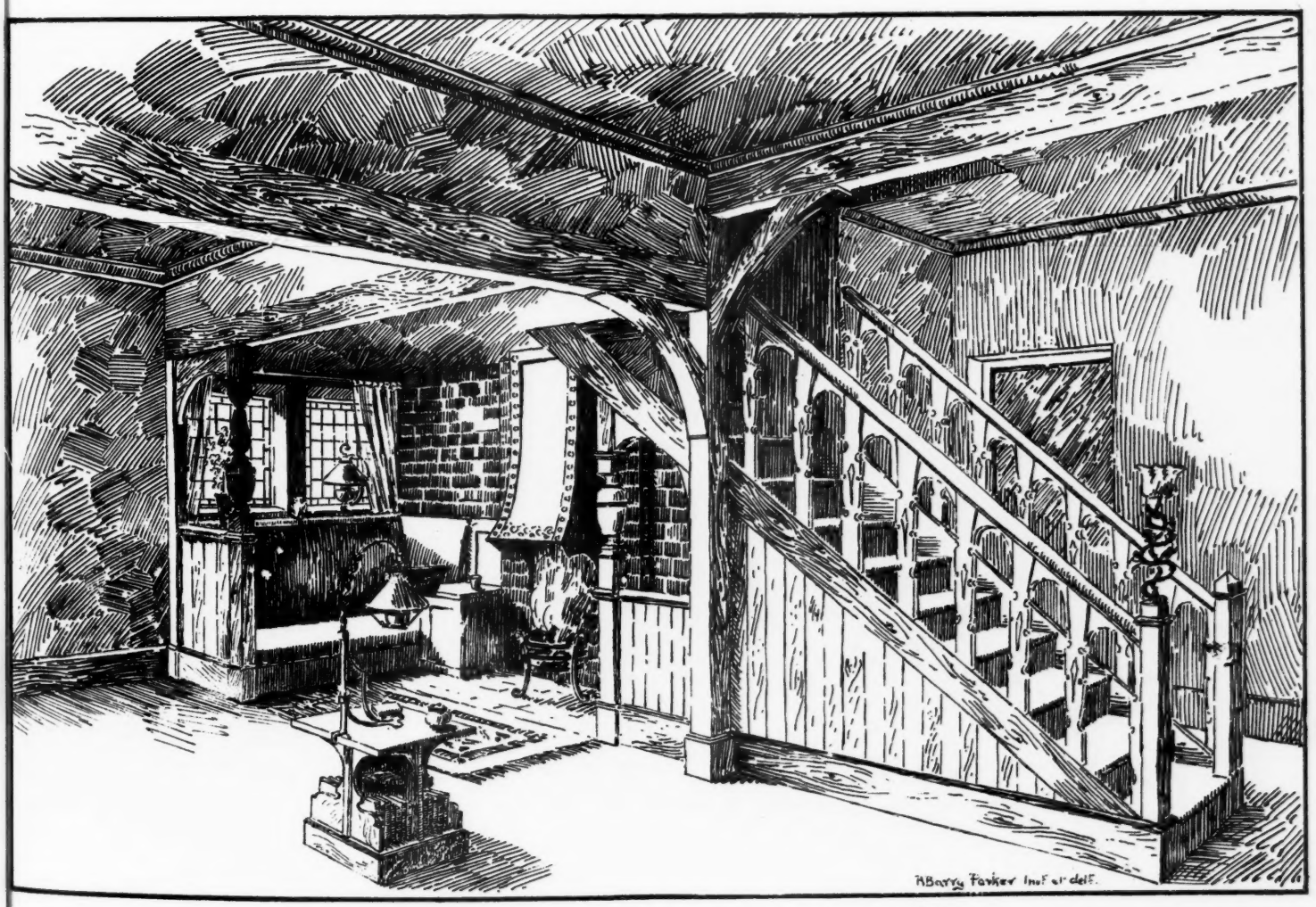


A Corner in The Hall, "Woodcote" Church Stretton

Barry Parker & Raymond Unwi



Preliminary Sketch for the Hall for a House at Buxton.



Preliminary Sketch for the Hall for a House at Buxton.

& Raymond Unwin: Architects.

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